



DB2 Server for VSE & VM

Master Index and Glossary

Version 7 Release 5



DB2 Server for VSE & VM

Master Index and Glossary

Version 7 Release 5

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 129.

This document contains proprietary information of IBM. It is provided under a license agreement and is protected by copyright law. The information contained in this publication does not include any product warranties, and any statements provided in this manual should not be interpreted as such.

Order publications through your IBM representative or the IBM branch office serving your locality or by calling 1-800-879-2755 in the United States or 1-800-IBM-4YOU in Canada.

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© Copyright International Business Machines Corporation 1987, 2007. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

About This Manual	v	SBOF-8936 DB2 Server for VSE Library for a VSE Environment	6
Who Should Use This Manual	v	Items Not in the DB2 Server for VSE Bill of Forms	6
Organization	v		
Summary of Changes	vii	Chapter 2. Alphabetic Codes	7
Summary of Changes for DB2 Version 7 Release 5	vii	Glossary	9
Enhancements, New Functions, and New		Index	33
Capabilities	vii	Notices	129
Chapter 1. Library Overview	1	Programming Interface Information	131
DB2 Server for VSE & VM Library	1	Trademarks	131
DB2 Server for VSE & VM Optional Features Library	2	Contacting IBM	133
Distributed Data Library	3	Product information	133
Task Orientation of the Manuals	3		
Bill of Forms Numbers and Contents	5		
SBOF-8937 DB2 Server for VM Library for a VM			
Environment	5		
Items Not in the DB2 Server for VM Bill of Forms	5		

About This Manual

This manual presents an overview of the DB2 Server for VSE & VM library and consolidates the indexes of the manuals in the library into one master index. The master index directs readers to one or more manuals in which a topic is discussed.

Who Should Use This Manual

The master index and glossary is intended for use by readers interested in topics described in the DB2 Server for VSE & VM library.

Organization

This manual contains the following:

- Chapter 1, "Library Overview," on page 1 discusses the documentation available for the DB2 Server for VSE & VM product.
- Chapter 2, "Alphabetic Codes," on page 7 lists the alphabetic codes that identify the books to which the master index refers.

The **Glossary** lists specialized terminology used in the manuals in the DB2 library.

The **Master Index** lists all the index entries in books in the DB2 Server for VSE & VM library and indicates the book that contains each index entry.

Summary of Changes

This is a summary of the technical changes to the DB2 Server for VSE & VM database management system for this edition of the book. Several manuals are affected by some or all of the changes discussed here. For your convenience, the changes made in this edition are identified in the text by a vertical bar (|) in the left margin. This edition may also include minor corrections and editorial changes that are not identified.

This summary does not list incompatibilities between releases of the DB2 Server for VSE & VM product; see either the *DB2 Server for VSE & VM SQL Reference*, *DB2 Server for VM System Administration*, or the *DB2 Server for VSE System Administration* manuals for a discussion of incompatibilities.

Summary of Changes for DB2 Version 7 Release 5

Version 7 Release 5 of the DB2 Server for VSE & VM database management system is intended to run on the Z/VM Version 5 Release 2 or later environment and on the Z/VSE^(®) Version 3 Release 1 or later environment.

Enhancements, New Functions, and New Capabilities

The following have been added to DB2 Version 7 Release 5:

Explain Option on DBSU REBIND PACKAGE Command

This new functionality allows the EXPLAIN(YES/NO) option on REBIND PACKAGE command. If EXPLAIN(YES) is issued, then all four update tables (structure, plan, cost, reference) will be updated. If EXPLAIN(NO) is issued, then none of the four update tables will be updated.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE & VM Database Services Utility*
- *DB2 Server for VSE & VM Performance Tuning Handbook*
- *DB2 Server for VSE & VM Quick Reference*
- *DB2 Server for VSE & VM SQL Reference*

For Fetch only

This new functionality accepts the "FOR FETCH ONLY" clause after a cursor select statement. It causes a cursor to become read-only (no UPDATES or DELETES are permitted using this cursor). If a read-only cursor is referenced in an UPDATE or DELETE statement, SQLCODE -510 will be issued and the statement is not processed. In addition, under the SBLOCK preprocessor option, "FOR FETCH ONLY" forces blocking to be used on the read-only cursor regardless of whether there is a COMMIT. If there is no "FOR FETCH ONLY" clause, under SBLOCK, blocking would only be done if a COMMIT was absent.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VM Messages and Codes*
- *DB2 Server for VSE & VM Application Programming*
- *DB2 Server for VSE & VM Performance Tuning Handbook*
- *DB2 Server for VSE & VM Quick Reference*

- *DB2 Server for VSE & VM SQL Reference*

Application Message Formatter

This functionality provides an Application Programming Interface (API) that retrieves the descriptive text for an SQLCODE, given an SQLCA input parameter. The API will be available for Assembly, COBOL, C, PL/I and FORTRAN.

In DB2 for VM and DB2 for VSE Online, the user may specify the language of the returned text. The languages supported by DB2 for VSE/VM are American English (AMENG), uppercase English (UCENG), German (GER), French (FRANC) and Japanese (KANJI). VSE Batch does not support switching to another language. Therefore the default will be used regardless of the user's specification. The values of SQLCODE, SQLSTATE, SQLERRD1 and SQLERRD2 will be automatically appended to the returned text. The user may also specify to have the entire SQLCA included. If the SQLCODE could not be found in the repository, the entire SQLCA will be returned in the buffer.

If the SQLCA was set by another product (such as DB2 UBD), the descriptive text is retrieved if the SQLCODE exists in the DB2 for VM/VSE repositories. However, the token substitutions may not be correct.

For more information, see *DB2 Server for VSE & VM Application Programming*.

Convert buffer read/write to compiler macro

The DRDA code has over 100 small modules. Each call to an external module has a certain amount of overhead associated with it. Certain modules are called very frequently and this can add up to a significant amount of time. This functionality improves the performance by converting few modules to macros or internal procedures, to reduce this overhead.

Modify Build Tree Creation

This functionality modifies Build Tree creation used by DRDA parsing and generation. It is built in such a way that every code point that is used to search through the tree must be converted to a different format before the search can be done. If modified build tree was created with the converted point, then the code point would not have to be converted every time the tree must be searched. This improves the performance of the DRDA code path length with the minimal search.

Split code point search routines

When parsing a data stream within each parser action routine, a binary search is done to find the specific code point. Some action specific routines are quite large, so the binary search can be long. Splitting and spreading the code point evenly among other modules would reduce the overheads and improves the performance of the DRDA code path length.

DRDA Multi-Row Insert

Multi Row insert is a means of caching homogenous insert statements and sending them as a block to the server for processing. This reduces the overhead of sending a large number of singular inserts and receiving as many responses.

Buffering of homogenous inserts eliminates the need to send an SQL statement to the DB2 server every time an insert is made, thereby improving performance over DRDA.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE & VM Application Programming*

- *DB2 Server for VSE & VM Database Administration*
- *DB2 Server for VM System Administration*
- *DB2 Server for VSE & VM Performance Tuning Handbook*
- *DB2 Server for VSE & VM Quick Reference*
- *DB2 Server for VSE & VM SQL Reference*

Connection Pooling for DRDA TCP/IP in Online Resource Adapter

Connection pooling is a technique that allows multiple users to share a cached set of pre-established connections that provide access to a database. Establishing a connection between a user and a server takes a sizeable time. Users who have validated their entry to a database once need not establish a connection every time a request is submitted. Instead, they can use a pre-established connection from a pool of such connections and get their results much faster.

From the user's point of view, there is a considerable improvement in response time after this line item is implemented.

For more information, see the following documentation on DB2 Server for VSE & VM:

- *DB2 Server for VSE System Administration*
- *DB2 Server for VSE & VM Application Programming*
- *DB2 Server for VSE & VM Operation*
- *DB2 Server for VSE & VM Performance Tuning Handbook*

IBM DB2 Server for VSE, Client Edition

This feature allows the customer the flexibility to install and use only the client (run-time support) component of DB2 Server for VSE without the requirement to buy and install the server component during the installation process of DB2 server for VSE product. The client-only installation enables customers to reduce the total cost of ownership when they have their databases residing on a non-local platform (like VM, z/OS, LUW) and have a large number of their DB2 applications on VSE (like ISQL on CICS, DBSU on VSE, other online/batch applications on VSE).

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE System Administration*
- *DB2 Server for VSE Program Directory*

IBM DB2 Server for VM, Client Edition

This feature allows the customer the flexibility to install and use only the client (run-time support) component of DB2 Server for VM without the requirement to buy and install the server component during the installation process of DB2 server for VM product. The client-only installation enables our customers to reduce the total cost of ownership when they have their databases residing on a non-local platform (like VM, z/OS, LUW) and have a large number of their DB2 applications on VM (like ISQL, DBSU, other user applications on VM).

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VM System Administration*
- *DB2 Server for VM Program Directory*

Handling Commit Responses from DB2 UDB Stored Procedures

This feature will allow DB2 Resource Manager on VSE/VM to accept and process results of a stored procedure running in a UDB server with a COMMIT statement in the stored procedure.

Currently, DB2 for VM/VSE client does not handle responses from 'COMMIT' statements coded in DB2 UDB stored procedures. Implementation of this feature will enable handling responses of COMMIT statements in DB2 UDB stored procedures and thus allow users to have COMMIT statements in their stored procedures, while using DB2 for VM/VSE client.

COMMIT statements, however, are not allowed in stored procedures on the DB2 Server for VM/VSE.

For more information, see *DB2 Server for VSE & VM Application Programming*.

Make on-line programs AMODE 31 RMODE ANY

This feature converts DB2 server for VSE online program which presently operate under 24 bit addressing mode from AMODE 24, to AMODE 31 RMODE ANY. Presently, all the online programs are loaded below 16M line. Implementation of this line item ensures that all the online program will be loaded above the 16M line, which results in more virtual storage below the line, which can be utilized by other applications.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE System Administration*
- *DB2 Server for VSE Program Directory*

Provide BIND File Support in VM and in VSE Batch Environments

This feature provides the facility of binding packages across servers. The process of binding is achieved by dividing the program preparation method into two steps. The first step does the precompilation of the embedded SQL programs with the prep parameter 'BIND'. Invocation of VSE/VM preprocessor creates a 'bindfile'. The bindfile can be bound against any DB2 server using VSE/VM binder. During this process, the access path is generated, SQL statements are verified, authorization checks are performed, and package on the target server is created. This line item eliminates the need of re-prepping the source code or porting of packages across DB2 servers.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 REXX SQL for VM/ESA Installation and Reference*
- *DB2 Server for VM Messages and Codes*
- *DB2 Server for VSE & VM Application Programming*
- *DB2 Server for VSE & VM Database Administration*
- *DB2 Server for VM Program Directory*
- *DB2 Server for VSE Program Directory*

Convert TCP/IP LE/C interface to EZASMI API

The feature of converting TCP/IP LE/C interface to EZASMI API intends to replace the current LE/C interface and implement the EZA Assembler Interface (EZASMI) to enhance performance in DB2 Client/Server for VSE over DRDA. Currently, either LE/C interface or CSI Assembler Interface is used for TCP/IP functions. The EZASMI interface makes the code all Assembler.

For more information, see *DB2 Server for VSE Program Directory*

Chapter 1. Library Overview

This chapter discusses the documentation available for the DB2 Server for VSE & VM product.

IBM provides a library that supports the DB2 Server for VSE & VM product, a relational database management system designed for both end users and data processing professionals. The DB2 Server for VSE & VM product works with the following systems or their equivalents:

- Virtual System Extended/Enterprise Systems Architecture (VSE/ESA) system
- Virtual Machine/Enterprise Systems Architecture (VM/ESA) system

Separate libraries of DB2 Server for VSE & VM manuals are available for VSE and VM users.

DB2 Server for VSE & VM Library

The DB2 Server for VSE & VM library contains the following:

- The *DB2 Server for VSE & VM Overview* booklet provides information for executives, demonstrating organizational benefits that can be obtained from using the DB2 Server for VSE & VM database manager.
- The *DB2 Server for VSE & VM Database Administration* manual describes tasks in database administration including configuration planning, operating environments, application design, database design, data security, performance improvements, and error recovery.
- The *DB2 Server for VM System Administration* and the *DB2 Server for VSE System Administration* manuals cover the planning and administration tasks from a systems administration perspective. The topics in this document include: configuration planning, operating environments, installation planning, operations planning, accounting, startup parameters, authorizing users, adding and deleting users, providing and managing space, customizing features of the DB2 Server for VSE & VM product, and using the DB2 Server for VSE & VM product in a distributed environment.
- The *DB2 Server for VSE & VM Interactive SQL Guide and Reference* manual covers the basic uses of SQL statements and the commands of the Interactive SQL (ISQL) facility. This guide includes exercises that can be done at a display terminal or on paper. It also references ISQL command syntax for end users.
- The *DB2 Server for VSE & VM Operation* manual explains how to control the DB2 Server for VSE & VM system with commands from the system operator's console.
- The *DB2 Server for VSE & VM Application Programming* manual is the guide and reference book for programmers using SQL. This book presents a complete description of all SQL statements.
- The *DB2 Server for VSE & VM Database Services Utility* manual is the guide and reference book for users of the DB2 Server for VSE & VM Database Services Utility program.
- The *DB2 Server for VM Messages and Codes* and the *DB2 Server for VSE Messages and Codes* manuals are reference manuals that explain each DB2 Server for VSE & VM message and completion code. Each explanation includes the action to be taken when that message or code is issued.

- The *DB2 Server for VSE & VM Diagnosis Guide and Reference* manual provides information that helps in determining if the DB2 Server for VSE & VM database manager is the source of the problem, recovering from problems, describing and reporting a defect. It also provides information on the DB2 Server for VSE & VM concepts for use in problem diagnosis.
- The *DB2 Server for VSE & VM Master Index and Glossary* manual lists all the index entries in books in the DB2 Server for VSE & VM library and indicates the book that contains a particular index entry. It also includes a glossary of DB2 Server for VSE & VM terms.
- The *DB2 Server for VSE & VM Quick Reference* manual summarizes SQL statements, Database Services Utility commands, ISQL commands, operator commands, functions, queries, SQL language elements, catalog tables, and reserved words.
- The *DB2 Server for VSE & VM SQL Reference* manual contains syntax diagrams and descriptions for all commands and statements that an application programmer uses in the DB2 Server for VSE & VM system.
- The *DB2 Server for VSE & VM Performance Tuning Handbook* manual helps you analyze and tune the performance of the DB2 Server for VSE & VM product. It provides details on how to manage storage and configure the operating system, how to configure the application server and application requester, and how to improve data access performance by analyzing and rewriting SQL statements. It also contains the information for operating, tailoring, and tuning VMDSS on a VM/ESA operating system.
- The *DB2 Server for VSE & VM Licensed Program Specifications* defines the warranty criteria for the DB2 Server for VSE & VM database manager.

DB2 Server for VSE & VM Optional Features Library

The DB2 Server for VSE & VM Optional Features Library contains the following:

- The *DB2 REXX SQL for VM/ESA Installation and Reference* manual, SC09-2891, is a separately priced feature and must be ordered separately using the order number.
- The *DB2 Server for VSE & VM Data Restore Guide*, SC09-2991, provides installation and usage information for the Data Restore feature which provides extended archive and recovery options.
- The *DB2 Server for VSE & VM Control Center Operations Guide for VSE*, GC09-2992, provides installation and usage information for the Control Center feature which provides database administration tools that help you automate many routine tasks in the VSE/ESA environment.
- The *DB2 Server for VSE & VM Control Center Operations Guide for VM*, GC09-2993, provides installation and usage information for the Control Center feature which provides database administration tools that help you automate many routine tasks in the VM/ESA environment.
- The *QMF Messages and Codes* manual, GC27-0717, lists all of Query Management Facility's Messages
- The *Installing and Managing QMF for VM* manual, GC27-0720, helps systems programmers install QMF in the VM/ESA environment. Subtasks include planning for installation, customizing QMF, or customizing co-requisite products to optimize QMF.
- The *Installing and Managing QMF for VSE* manual, GC27-0721, helps systems programmers install QMF in the VSE/ESA environment. Subtasks include planning for installation, customizing QMF, or customizing co-requisite products to optimize QMF.

- The *Introducing QMF* manual, GC27-0714, assists the customer in making a buy decision.
- The *QMF Reference* manual, SC27-0715, provides detailed information about the structure of a QMF command or an SQL query. This is for people who have experience with QMF.
- The *Using QMF* manual, SC27-0716, documents the end-user getting started functions available in QMF. Guides the user to online help for learning about QMF.
- The *Developing QMF Applications* manual, SC27-0718, discusses what you can do to design and develop Query Management Facility (QMF) applications.
- The *Getting Started with QMF for Windows* manual, SC27-0723, provides assistance in operating and maintaining QMF for Windows. This guide explains the basic layout of QMF for Windows and how to execute the most common end user tasks within the QMF for Windows environment.
- The *Installing and Managing QMF for Windows* manual, GC27-0722, provides assistance in planning for installing, configuring, and maintaining QMF for Windows.

Distributed Data Library

If you connect to other IBM relational databases using the Distributed Relational Database Architecture™ (DRDA) implementation, or if your DB2 Server for VSE & VM system is being accessed as an application server by other IBM relational databases using the Distributed Relational Database Architecture (DRDA) implementation, you may wish to consult the following:

- *DB2 Connect Enterprise Edition Quick Beginning*, S10J-7888
- *DB2 Connect Personal Edition Quick Beginning*, S10J-8162
- *DB2 Connect User's Guide*, S10J-8163.

Task Orientation of the Manuals

The DB2 Server for VSE & VM library is organized into the following tasks:

Table 1. Task Organization of the Manuals

For Information on	Look in
Evaluation	
Examining and judging the applicability of an IBM product to an installation's needs.	<i>DB2 Server for VSE & VM Overview</i> booklet
Planning and Administration	
Making fundamental decisions about the options a program offers. The decisions are presumably specified in written directions and procedures that are followed during the implementation tasks of installation, operation, resource definition, application programming, and program service. Planning is an iterative task in that many of the decisions are made before installation, continually evaluated after installation, and revised as appropriate.	<i>DB2 Server for VSE & VM Database Administration, DB2 Server for VM System Administration</i> or <i>DB2 Server for VSE System Administration, DB2 Server for VSE & VM Performance Tuning Handbook</i>
Defining the characteristics of data processing resources to a program. The resources can be databases, programs, users, and others.	<i>DB2 Server for VSE & VM Database Administration, DB2 Server for VM System Administration</i> or <i>DB2 Server for VSE System Administration, DB2 Server for VSE & VM Performance Tuning Handbook</i>
Installation	
Making the database manager ready for use.	<i>DB2 Server for VM Program Directory</i> or <i>DB2 Server for VSE Program Directory</i>
Operation	
Starting the database manager, monitoring it to keep it operating, and shutting it down when it is no longer needed.	<i>DB2 Server for VSE & VM Operation</i>
Application Programming	
Designing, coding, preprocessing, compiling, executing, debugging, and maintaining application programs to perform specific functions.	<i>DB2 Server for VSE & VM Application Programming, DB2 Server for VSE & VM SQL Reference, DB2 Server for VSE & VM Database Services Utility</i>
End Use	
Directing use of an IBM program for the purpose for which it was provided.	<i>DB2 Server for VSE & VM Interactive SQL Guide and Reference, DB2 Server for VSE & VM Quick Reference</i>
Diagnosis and Program Service	
Identifying the IBM program that is the source of a programming problem, describing the problem, comparing it to similar known problems, reporting a new problem, and correcting the problem.	<i>DB2 Server for VM Messages and Codes</i> or <i>DB2 Server for VSE Messages and Codes, DB2 Server for VSE & VM Diagnosis Guide and Reference</i>

Bill of Forms Numbers and Contents

A bill of forms has been set up to help you order the DB2 Server for VSE & VM manuals.

SBOF-8937 DB2 Server for VM Library for a VM Environment

Ordering SBOF-8937 is the same as ordering each of the following:

Title	Order Number
<i>DB2 Server for VSE & VM Overview</i>	GC09-2995
<i>DB2 Server for VSE & VM Database Administration</i>	SC09-2888
<i>DB2 Server for VM System Administration</i>	SC09-2980
<i>DB2 Server for VSE & VM Interactive SQL Guide and Reference</i>	SC09-2990
<i>DB2 Server for VSE & VM Operation</i>	SC09-2986
<i>DB2 Server for VSE & VM Application Programming</i>	SC09-2889
<i>DB2 Server for VSE & VM Database Services Utility</i>	SC09-2983
<i>DB2 Server for VM Messages and Codes</i>	GC09-2984
<i>DB2 Server for VSE & VM Master Index and Glossary</i>	SC09-2890
<i>DB2 Server for VSE & VM SQL Reference</i>	SC09-2989
<i>DB2 Server for VSE & VM Quick Reference</i>	SC09-2988
<i>DB2 Server for VSE & VM Performance Tuning Handbook</i>	GC09-2987

Items Not in the DB2 Server for VM Bill of Forms

These items are **not included** in the bill of forms grouping:

- The *DB2 Server for VSE & VM Diagnosis Guide and Reference* manual, LC09-2907, is a licensed manual and must be ordered separately using the order number.
- The *DB2 Server for VSE & VM Licensed Program Specifications* is not needed in a working library. (One copy is supplied with the DB2 Server for VSE & VM product tape.)
- The *DB2 Replication Guide and Reference*, SC26-9920, provides information on how to plan, configure, administer, and operate the IBM Replication tools available as DataPropagator Relational Version 5.1 or later program products or within DB2 Universal Database Version 5.2 or later.
- The following optional features items are also **not included**:
 - *DB2 REXX SQL for VM/ESA Installation and Reference*
 - *DB2 Server for VSE & VM Data Restore Guide*
 - *DB2 Server for VSE & VM Control Center Operations Guide for VM*
 - *QMF Messages and Codes*
 - *Installing and Managing QMF for VM*
 - *Introducing QMF*
 - *QMF Reference*
 - *Using QMF*
 - *Developing QMF Applications*
 - *Getting Started with QMF for Windows*
 - *Installing and Managing QMF for Windows.*

SBOF-8936 DB2 Server for VSE Library for a VSE Environment

Ordering SBOF-8936 is the same as ordering each of the following:

Title	Order Number
<i>DB2 Server for VSE & VM Overview</i>	GC09-2995
<i>DB2 Server for VSE & VM Database Administration</i>	SC09-2888
<i>DB2 Server for VSE System Administration</i>	SC09-2981
<i>DB2 Server for VSE & VM Interactive SQL Guide and Reference</i>	SC09-2990
<i>DB2 Server for VSE & VM Operation</i>	SC09-2986
<i>DB2 Server for VSE & VM Application Programming</i>	SC09-2889
<i>DB2 Server for VSE & VM Database Services Utility</i>	SC09-2983
<i>DB2 Server for VSE Messages and Codes</i>	GC09-2985
<i>DB2 Server for VSE & VM Master Index and Glossary</i>	SC09-2890
<i>DB2 Server for VSE & VM SQL Reference manual</i>	SC09-2989
<i>DB2 Server for VSE & VM Quick Reference</i>	SC09-2988
<i>DB2 Server for VSE & VM Performance Tuning Handbook</i>	GC09-2987

Items Not in the DB2 Server for VSE Bill of Forms

These items are **not included** in the bill of forms grouping:

- The *DB2 Server for VSE & VM Diagnosis Guide and Reference*, LC09-2907, manual is a licensed manual and must be ordered separately using the order number.
- The *DB2 Server for VSE & VM Licensed Program Specifications* is not needed in a working library. (One copy is supplied with the DB2 Server for VSE & VM product tape.)
- The *DB2 Replication Guide and Reference*, SC26-9920, provides information on how to plan, configure, administer, and operate the IBM Replication tools available as DataPropagator Relational Version 5.1 program products or within DB2 Universal Database Version 5.2.
- The following optional features items are also **not included**:
 - *DB2 Server for VSE & VM Data Restore Guide*
 - *DB2 Server for VSE & VM Control Center Operations Guide for VSE*
 - *QMF Messages and Codes*
 - *Installing and Managing QMF for VSE*
 - *Introducing QMF*
 - *QMF Reference*
 - *Using QMF*
 - *Developing QMF Applications*
 - *Getting Started with QMF for Windows*
 - *Installing and Managing QMF for Windows.*

Chapter 2. Alphabetic Codes

Entries in the master index refer you to the appropriate DB2 Server for VSE & VM manuals through the use of uppercase alphabetic codes. For example, **APP-13** represents the *DB2 Server for VSE & VM Application Programming* manual and page number that the topic will be found on.

The following alphabetic codes are used in the master index to identify a specific DB2 Server for VSE & VM manual:

Code	Manual Name
APP	<i>DB2 Server for VSE & VM Application Programming</i>
DBA	<i>DB2 Server for VSE & VM Database Administration</i>
DBSU	<i>DB2 Server for VSE & VM Database Services Utility</i>
DIAG	<i>DB2 Server for VSE & VM Diagnosis Guide and Reference</i>
ISQL	<i>DB2 Server for VSE & VM Interactive SQL Guide and Reference</i>
OPER	<i>DB2 Server for VSE & VM Operation</i>
PERF	<i>DB2 Server for VSE & VM Performance Tuning Handbook</i>
SYVM	<i>DB2 Server for VM System Administration</i>
SYVSE	<i>DB2 Server for VSE System Administration</i>
SQLREF	<i>DB2 Server for VSE & VM SQL Reference</i>

The following items do not have indexes, and are thus not represented in the master index:

- *DB2 Server for VSE & VM Overview*
- *DB2 Server for VSE & VM Quick Reference*
- *DB2 Server for VSE & VM Licensed Program Specifications*
- *DB2 Server for VM Program Directory*
- *DB2 Server for VSE Program Directory*

The master index does not include index entries from the *DB2 Server for VM Messages and Codes* or *DB2 Server for VSE Messages and Codes* manuals.

Glossary

This glossary includes terms and definitions from:

- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright 1990 by the American National Standards Institute (ANSI). Copies may be purchased from the American National Standards Institute, 1430 Broadway, New York, New York 10018.
- The *Information Technology Vocabulary*, developed by Subcommittee 1, Joint Technical Committee 1, of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC1/SC1).

A

access. The manner in which files or data sets are referred to by a computer.

access module. See *package*.

access path. The path used to get to data specified in SQL statements. An access path can involve either an index, a sequential search, or a combination of both.

access plan. A package or a product-specific object that contains control structures used to execute SQL statements.

ACL. See *Automatic Cartridge Loader*.

active log. The log currently being used by the database manager.

addressing mode (AMODE). The addressing scheme used in the System/370 environment; either 24-bit or 31-bit.

Advanced Communications Function for Virtual Telecommunications Access Method (ACF/VTAM). An IBM licensed program that controls communications and flow of data in an SNA network. It provides single-domain, and interconnected network capability.

advanced program-to-program communication (APPC). The inter-program communication service within SNA LU 6.2 on which the APPC/VM interface is based.

advanced program-to-program communication/virtual machine (APPC/VM). An application programming interface that uses the SNA LU 6.2 protocol to enable two application programs to communicate.

agent. A structure that the database manager allocates to a user to enable the processing of requests by an application server.

allocated cursor. A cursor defined for stored procedure results sets by using `ALLOCATE CURSOR`.

alternate logging. An optional facility that allows an inactive log disk to be used once the active log disk is full.

American National Standard (ANS). A standard produced by the American National Standards Institute.

American National Standards Institute (ANSI). An organization consisting of producers, consumers, and general interest groups, that establishes the procedures by which accredited organizations create and maintain voluntary industry standards in the United States.

American Standard Code for Information Interchange (ASCII). An encoding scheme used to represent character data in the OS/2[®] environment.

AMODE. See *addressing mode*.

ANS. See *American National Standard*.

ANSI. See *American National Standards Institute*.

API. See *application programming interface*.

APPC. See *advanced program-to-program communication*.

APPC/VM. See *advanced program-to-program communication/virtual machine*.

APPC/VM VTAM Support (AVS). A component of VM/370 and VM/ESA that lets application programs using APPC/VM communicate with programs anywhere in an SNA network. AVS transforms APPC/VM into APPC/VTAM protocol.

application. A program or set of programs that performs a task; for example, a payroll application.

application-embedded SQL. SQL statements coded within an application program. See *static SQL*.

application process. A general term for a unit that depends on the environment, but has the same basic properties in all environments. An application process involves the execution of one or more programs and is the unit to which resources and locks are allocated.

application program. A program used to perform a particular data processing task, such as inventory control or payroll. ISQL and QMF are examples of application programs.

application programming interface (API). The interface that application programs use to request services from a program such as a database manager.

application requester. A component that accepts a database request from an application and passes it to an application server.

application server. The database manager component that receives and processes database requests issued by the application requester.

archive. A copy of the database at a given time plus all the changes made since that time. It is used as a backup and to recover the database if a failure occurs. See *log*.

arithmetic expression. (1) An expression that contains arithmetic operations and operands and that can be reduced to a single numeric value. (2) A statement containing any combination of data items joined by one or more arithmetic operators in such a way that it can be evaluated as a single numeric value. (3) An arithmetic operation (+, -, *, /) involving numeric operands. An expression preceded by a numeric minus sign is also considered to be an arithmetic expression.

ASCII. See *American Standard Code for Information Interchange (ASCII)*.

assembler language. A programming language that provides symbolic form for machine instructions. It usually also provides macro instructions.

atomic integrity. The condition in which either all or none of the actions involved in an operation or a logical unit of work are performed.

authority. See *CONNECT authority*, *RESOURCE authority*, and *DBA authority*.

authorization. The right granted to a user to communicate with or make use of a computer system.

authorization ID. (1) A character string that designates a set of privileges. The authorization ID of a statement is used by the database manager for authorization checking and as an implicit qualifier for the names of tables, views, and indexes. (2) A user or a group of users. Contrast with *user ID*.

authorization name. A character string that is coded as part of some SQL statements, such as GRANT, REVOKE, and CONNECT. The character string must correspond to the character string designated for the user's authorization ID, to execute a desired statement that requires certain privileges granted on objects such as tables, views, and packages.

auto protocol. A protocol option that lets a DB2 Server for VM application server communicate with a DB2 Server for VM application requester using the SQLDS-only protocol or with a non-DB2 Server for VM application requester using the DRDA protocol.

automatic cartridge loader (ACL). get defn.....

AVS. See *APPC/VM VTAM support*.

AXE transaction. This is the APPC-to-XPCC Exchange transaction that serves as an APPC communications adapter for the DB2 Server for VSE DRDA application server. This AXE transaction communicates externally with the application requester using the APPC protocol (basic conversion) and internally with the DB2 Server for VSE application server using the XPCC protocol. Its main function is to route a data stream received through CICS/APPC to a DB2 Server for VSE application server using XPCC.

B

backout. A process in which the database manager restores a database to the condition it was in before a specific *logical unit of work* began and releases the locks that were acquired for that logical unit of work.

basic predicate. A predicate that compares two values.

batch. Pertaining to activity involving little or no user action. See *noninteractive processing*. Contrast with *interactive processing*.

big-endian. A format for storage or transmission of binary data in which the most significant bit (or byte) comes first. The reverse convention is little-endian.

binary integer. A basic data type that can be further classified as small integer or large integer.

bind. The process in which the database manager transforms the specification of an SQL statement into a plan for a sequence of internal operations.

BIT data. Data that is not associated with a coded character set and is therefore never converted.

buffer. A portion of storage used to hold input or output data temporarily.

C

C. A programming language containing both high level and low level language constructs. C programs can be run on different types of computers with minimal change to the code.

callable services library (CSL). A package of CMS assembler routines that can be stored as an entity and made available to a high-level language, REXX, or an assembler program.

cascade. A delete rule that can be specified in the definition of a referential constraint. When a parent row of the referential constraint is deleted, the delete operation is propagated to its dependent rows.

catalog. A set of tables maintained by the database manager. These tables contain information such as descriptions of tables, views, and packages.

catalog table. A table maintained dynamically by the database manager containing information about objects such as tables and views, and other entities such as conversion tables and authorization IDs defined to the database manager.

CCSID. See *coded character set identifier (CCSID)*.

CDRA. See *Character Data Representation Architecture*.

centralized database. Data that is stored in a single database. Contrast with *distributed database*.

character. (1) A letter, digit, or other symbol in a data character set. (2) A data type in SQL.

character conversion. The conversion of a string from one coded character set to another.

Character Data Representation Architecture (CDRA). The architecture that defines CCSID values to identify the codes used to represent characters and the conversion of these codes, as needed, to preserve the characters and their meanings.

character set. A defined set of characters.

character string. A sequence of bytes or characters.

checkpoint. A set of cleanup and recovery actions taken periodically by the database manager. Actions include writing a copy of the database to disk, recording information in the database log, and freeing storage pool space.

CICS. See *Customer Information Control System*.

CICS/VSE®. Customer Information Control System/Virtual Storage Extended.

clause. In SQL, a distinct part of a statement, such as a SELECT clause or a WHERE clause.

clustered index. An index whose sequence of key values closely correspond to the sequence of rows stored in a table.

clustering index. The first index created for a table. The database manager uses it to determine the placement of subsequent rows.

CMS. See *Conversational Monitor System*.

CMS communications directory (COMDIR). A CMS facility used by the DB2 Server for VM resource adapter that lets APPC/VM or TCP/IP applications establish conversations with remote systems using symbolic destination names. The resource adapter uses two levels of directories: the *system communications directory* and the *user communications directory*. CMS user and system communications directories map a *server-name* to a symbolic destination name.

COBOL (common business-oriented language). A high-level programming language, based on English, that is used primarily for commercial data processing applications.

code page. A set of assignments of characters to *code points*.

code point. In CDRA, a code point is a unique bit pattern that represents a character in a code page.

coded character set. The one-to-one mapping between each character in a character set and its coded representation.

coded character set identifier (CCSID). A 16-bit number that includes an encoding scheme identifier, character set identifiers, code page identifiers, and other information that uniquely identifies the coded graphic character representation used.

collection. A logical grouping for SQL objects. See also *TSAF collection*.

column. The vertical component of a table. A column has a name and a particular data type (for example, character, decimal, or integer).

column function. An SQL operation that produces a value from a set of values. It is expressed in the form of a function name followed by an argument enclosed in parentheses.

COMDIR. See *CMS communications directory*.

command. Generally, a request for system action. ISQL and the DBS utility uses commands to interact with the DB2 Server for VM and DB2 Server for VSE database managers. Contrast with *statement*.

commit. The operation that terminates a *unit of work* by releasing locks so that the database changes made by that unit of work can be perceived by other processes. The process that allows data changes to be made permanent. When a commit occurs, other applications can reference the just-committed data.

commit point. A point in time when data is considered to be consistent.

common programming interface (CPI). A set of languages and services that programmers can use to develop applications that take advantage of SAA consistency.

comparison operator. A symbol (such as =, >, <=) used to specify a relationship between two values.

compatibility. In SQL, when two expressions have similar attributes (for example, both are numeric). Compatibility allows the expressions to be compared or assigned to each other.

component CCSIDS. Mixed CCSIDs have a single byte component CCSID and a double byte component CCSID. For example, in mixed CCSID 5035, CCSID 1027 is used for single byte characters and CCSID 4396 is used for double byte characters.

composite key. An ordered set of key columns of the same table.

concurrency. The shared use of resources by multiple interactive users or application processes at the same time.

CONNECT authority. The authority to use database functions (such as SQL statements) on a database.

connectivity. The capability that allows different database managers to work together in response to a request for data. The database managers can be *like* or *unlike*, for example, all database managers or a combination of the DB2 Server for VSE & VM and DB2® database managers.

| **CONNPOOL.** VSE DBNAME entry to activate connection pooling feature for the target database connected via
| DRDA over TCP/IP

| **connection pooling.** The feature that enhances CONNECT performance for VSE online applications that issues
| repeated SQL CONNECTs to the same database or switches back and forth between the remote databases connected
| over TCP/IP and other databases.

console. That part of a computer used for communication with the operator.

constant. A language element that specifies an unchanging value. Constants are classified as string constants or numeric constants. Contrast with *variable*.

Control Program (CP). A component of a VM system that manages the resources of a single computer so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of an IBM System/370 or System/390 system.

CONV. See *data conversion*.

Conversational Monitor System (CMS). A virtual machine operating system that provides general interactive time sharing, problem solving, and program development capabilities, and operates only under the control of the VM Control Program.

conversion selection table. Information about all valid source and target CCSIDs and all necessary conversions.

coordinated resource recovery (CRR). A CMS facility that implements the LU 6.2 sync point architecture, which ensures that transactions can update multiple protected resources with integrity. This means that all updates, within the transaction, are either completed (committed) or not completed (rolled back or backed out). CRR consists of the coordination function, the resynchronization function, and the logging function. The coordination function resides in the application program's virtual machine. The resynchronization and logging functions reside in the CRR recovery server.

correlated subquery. A subquery (part of a WHERE or HAVING clause) applied to a row or group of rows of the table or view named in an outer subselect.

correlation name. An identifier that designates a table, a view, or individual rows of a table or view within a single SQL statement. It can be defined in any FROM clause or in the first clause of an UPDATE or DELETE statement.

CP. See *control program*.

CPI. See *common programming interface (CPI)*.

creator. See *owner*.

CRR. See *coordinated resource recovery*.

CS. See *cursor stability*.

CSL. See *callable services library*.

cursor. A visual cue that shows a user where keyed input will appear on a screen. A named control structure used by an application program to point to a specific row within some ordered set of rows. The cursor is used to retrieve rows from the set.

cursor stability. An isolation level that (1) prevents a row changed by a concurrently executing application process from being read until that row is committed by the application process and (2) ensures that the current row of every cursor is not changed by concurrently executing application processes. Under level CS, a row that is read and not updated during a unit of work and is no longer the current row of a cursor can be changed by concurrently executing application processes.

Customer Information Control System (CICS). An IBM licensed program that enables transactions entered at remote terminals or workstations to be processed concurrently by user-written application programs. It includes facilities for building, using, and maintaining databases.

Customer Information Control System/Disk Operating System/Virtual Storage. A general-purpose licensed program that controls online communication between terminal or workstation users and a database.

D

daemon. A software "entity" that monitors a TCP/IP port for a request from a client.

data conversion (CONV). A component of the DB2 Server for VSE & VM database manager that performs data conversion and returns data to the user when the DRDA datastream is used. Also converts character and graphic data, regardless of the protocol used.

data integrity. The condition where the accuracy and consistency of data in the database is preserved regardless of changes made. Data integrity is achieved with *atomic integrity*, *entity integrity*, and *referential integrity*.

data type. (1) An attribute used for defining data. For example, CHARACTER, NUMERIC, and GRAPHIC data each have different data types. (2) A set of values together with a set of permitted operations in a programming language. The SQL data types are SMALLINT, INTEGER, DECIMAL, FLOAT, CHARACTER, VARCHAR, GRAPHIC, VARGRAPHIC, LONG VARCHAR, LONG VARGRAPHIC, DATE, TIME, and TIMESTAMP. If data is specified as NUMERIC, it is treated like DECIMAL.

database administrator (DBA). (1) An individual or group responsible for the design, development, operation, safeguarding, maintenance, and use of a database. DBA is the highest authority level a DB2 Server for VSE & VM user can have. (2) An individual or group responsible for the rules by which data is accessed and stored. The DBA is usually responsible for database integrity, security, performance, and recovery.

database archive. To copy the database (Directory and DBEXTENTS) to tape for the purpose of media recovery.

database machine. A virtual machine that has access to DB2 Server for VM code and a database. The database machine controls access to the database.

database management system (DBMS). A software system that controls the logical and physical resources and facilities of a database.

database manager. A program product that processes SQL statements.

database partition. A VSE partition that has access to DB2 Server for VSE code and a database. It controls access to the database.

Database Services utility (DBS utility). An application program supplied with the DB2 Server for VSE & VM database managers to provide several utility functions, including the loading and unloading of data and packages, and the execution of SQL statements previously saved in a command file.

database storage subsystem (DBSS). A component of the database manager that accesses and manages the database DASD.

data pages. 4096-byte pages that contain the tables in a DBSPACE.

data system control (DSC). A component of the DB2 Server for VSE & VM database manager that initiates, terminates, and supervises communications for the database machine. Used on both the user and the database machine.

date. A three-part value that designates a day, month, and year.

date duration. A value that represents a number of years, months, and days.

datetime arithmetic expression. An addition or subtraction operation in which one of the operands is a DATE, TIME, or TIMESTAMP data type.

datetime data type. One of the DATE, TIME or TIMESTAMP data types.

datetime duration. A period of time. A date duration is represented in the form *yyyymmdd*, where *yyyy* is the number of years, *mm* is the number of months, and *dd* is the number of days. A time duration is represented in the form *hhmmss*, where *hh* is the number of hours, *mm* is the number of minutes, and *ss* is the number of seconds.

datetime value. A value of the data type DATE, TIME, or TIMESTAMP.

DB2 Server for VSE operator console. A workstation used for communication between the operator and the DB2 Server for VSE database manager. It is used, for example, to specify information concerning application programs and to monitor system operation.

DBA. See *database administrator*.

DBA authority. The authority to perform all SQL operations on all SQL tables. DBA authority includes both CONNECT authority and RESOURCE authority.

DBCS. See *double-byte character set (DBCS)*.

dbextent. The physical medium where database data is stored. Storage pools are composed of one or more dbextents.

DBMS. See *database management system*.

dbname. See *server-name*.

DBNAME Directory. A directory of all DBNAMEs for local, remote, and host VM (Guest Sharing) application servers. It identifies the system default application server and partition defaults. It identifies all valid TPNs used to access the DB2 Server for VSE application server from remote application requesters.

DBS utility. See *Database Services utility*.

dbspace. A logical allocation of space in a *storage pool* contained in a database. Contains one or more tables and their associated indexes.

dbspace scan. An access path for retrieving the results of an SQL statement by which all nonempty data pages of the DBSPACE are fetched.

DBSS. See *database storage subsystem*.

DCSS (discontiguous saved/shared segment). See *discontiguous shared segment*.

DDM. See *distributed data management*

ddm-rdb. Well-known service name for relational databases. The well-known port number that is assigned to ddm-rdb is 446.

deadlock. An impasse that occurs when a process is waiting for a resource that is being held by another process that is currently waiting for the first resource.

default. Pertaining to an attribute, value, or option that is assumed when none is explicitly specified.

delete casade. See *casade*.

delete-connected table. A table that may be involved in a delete operation on another table.

delete restrict. See *restrict*.

delete rule. A rule associated with a referential constraint that can restrict the deletion of a parent row or specify the effect of such a deletion on the dependent rows.

delete set null. See *set null*.

delimited identifier. A sequence of characters enclosed within double quotation marks (""). The sequence must consist of a letter followed by zero or more characters, each of which is a letter, a digit, or the underscore character.

delimiter token. A string constant, a delimited identifier, an operator symbol, or any of the special characters shown in syntax diagrams.

dependent row. A row that contains a foreign key that matches the value of a primary key in the *parent row*.

dependent table. A table that is a dependent in at least one referential constraint.

descendent table. A table is a descendent of table T if it is a dependent of T or a dependent of a descendent of T.

directory. (1) A list of identifiers that map corresponding items of data. For example, a DB2 Server for VSE & VM directory maps dbspaces to addresses on a physical device. (2) The CMS communications directory maps the server-name to its destination.

directory block. A 512-byte record from the directory.

directory buffer. A storage area for directory blocks.

disconnect mode. A facility that allows an interactive user to disconnect from the database manager while the database manager continues to run. The user can later reconnect.

discontiguous shared segment (DCSS). A *shared segment* that occupies one or more architecturally-defined segments.

dispatcher. The component of DB2 Server for VSE & VM that is responsible for allocating processor service to agents.

distributed data management (DDM). A protocol architecture that allows an application program to access data from a remote system. DDM, together with LU type 6.2, CDRA, and FD:OCA, provides the base for DRDA architecture.

distributed database. A collection of logically related data that is physically stored over different but interconnected computing systems. Each site of the network has autonomous processing capability and can run local applications on local databases. Contrast with *centralized database*.

distributed relational database. A set of tables that is spread across different but interconnected computing systems.

Distributed Relational Database Architecture (DRDA). Pertaining to an IBM connection protocol for the access and use of distributed relational data wherever it resides in an interconnected network of relational database products.

dotted-decimal form. Notation for an internet address. For example, "9.21.23.103". A dotted-decimal form address must be converted to network byte order before it can be used in a socket interface.

double-byte character set (DBCS). A set of characters in which each character is represented by 2 bytes. Languages such as Japanese and Chinese, which contain more symbols than can be represented by 256 code points, require double-byte character sets. Because each character requires 2 bytes, entering, displaying, and printing DBCS characters requires hardware and supporting software that are DBCS capable.

distributed unit of work (DUOW). Lets a user or application program read or update data at multiple locations within a single unit of work. With distributed unit of work, you can have many SQL statements within a unit of work; you can access one database management system with each SQL statement; and you can access many database management systems within a unit of work.

double precision floating-point number. A 64-bit approximate representation of a real number.

DRDA. See *Distributed Relational Database Architecture (DRDA)*.

DRDA protocol. A protocol for communicating with both DB2 Server for VM and non-DB2 Server for VM database managers.

DSC. See *data system control*.

dual logging. An optional facility that produces a duplicate copy of log data.

DUOW. See *distributed unit of work*.

duration. A number that represents an interval of time. See *labeled duration, date duration, time duration, and timestamp duration*.

dynamic SQL. SQL statements that are prepared and executed within a program while the program is executing. In dynamic SQL, the SQL source is contained in host language variables rather than being coded into the application program. The SQL statement might change several times during the program's execution.

E

EBCDIC. See *extended binary-coded decimal interchange code (EBCDIC)*.

ECECPs. Euro Country Extended Code Pages. These code pages are identical to the existing Country Extended Code Pages (CECPs), except that the Euro symbol occurs in the new CECPs in the location where the international monetary symbol occurs in the existing CECPs.

embedded SQL. SQL statements coded within an application program. See *static SQL*.

encoding scheme. A set of rules to represent character data.

enter. To type characters and press the Enter key, instructing the computer to perform the requested action.

entity integrity. The state in which all values of a table's primary key are unique and not null regardless of changes made to data in the table.

escape character. The symbol used to enclose an SQL delimited identifier. This symbol is the double quotation mark ("). A character coded in the ESCAPE clause of the LIKE predicate.

ESM. See *External Security Manager*.

EUC. See *extended UNIX code (EUC)*.

exclusive lock. A lock that prevents concurrently executing applications from accessing row data.

executable statement. An SQL statement that can be (1) embedded in an application program, (2) dynamically prepared and executed, or (3) issued interactively.

EXEC. A CMS file with a file type of EXEC. It contains a series of commands or instructions that are executed when you enter the filename of the EXEC file.

exposed name. Names specified in a FROM clause are exposed or nonexposed. An exposed name is a correlation name or a table or view name for which a correlation name is not specified. Contrast with *nonexposed name*.

expression. An operand or a collection of operators and operands that yields a single value.

extended binary-coded decimal interchange code (EBCDIC). An encoding scheme used to represent character data in the MVS, VM, VSE, and OS/400® environments.

extended dynamic SQL. SQL statements that support direct creation and maintenance of packages. They provide a function similar to the DB2 Server for VSE & VM preprocessors, and can be used to create additional preprocessors and database interface routines.

extended UNIX code (EUC). Defines a set of encoding rules that can support sets of characters from 1 to 4 bytes in length. EUC is a means of specifying a collection of codepages rather than actually being a codepage encoding scheme itself. This is the UNIX alternative to the PC double-byte (DBCS) codepage encoding schemes.

External Security Manager (ESM). Software that is not part of DB2 Server for VSE & VM that is used to define and authenticate user access to system resources. An example of an external security manager is RACF.

extract. Selected data that is copied from a remote system and loaded into the local system. The process of copying selected data from a remote system and loading it into a local system.

F

FD:OCA. See *formatted data object content architecture*.

fenced. This term is used to describe a stored procedure that is separated from the database manager with respect to execution and memory usage.

field procedure. A user defined exit to encode values before they are inserted into a database and to decode them when the values are retrieved. Used, for example, to change the alphabetic collating sequence.

FIPS. Federal Information Processing Standards.

fixed-length string. A character or graphic string whose length is specified and cannot be changed. Contrast with *varying-length string*.

flagger. An optional preprocessor function that identifies all SQL statements in an application program that do not conform to the SQL-89 standard or the SAA standard.

foreign key. A row in a dependent table with a foreign key value that matches a primary key value in a parent table, and is referenced in the referential constraint.

formatted data object content architecture (FD:OCA). An architected collection of constructs used to interchange formatted data. DDM, CDRA, LU type 6.2, and FD:OCA, provide the base for the remote unit of work architecture.

free class. An approximation of the free space on a data page.

free space. The number of bytes on a data page that are available for storing rows.

fullselect. Two or more subselects linked by UNION operators. A fullselect does not include an ORDER BY clause or a FOR UPDATE OF clause. A form of subselect that specifies that a result table is to be used, or is one or more subselects linked by UNION operators.

function. A *column function* or *scalar function*.

G

gatename. The DB2 Server for VSE & VM NAME for a lockable object. It is a multipart name.

GDS. See *general data stream*.

general data stream (GDS). An SNA data stream that consists of transaction program data preceded by a 2-byte binary logical length (LL) field and a 2-byte binary identification (ID) field.

gigabyte (GB). 2^{30} , or 1,073,741,824 bytes.

graphic string. A sequence of DBCS characters.

guest operating system. An operating system that runs on the user's primary operating system. For example, VSE can run as a guest operating system on VM.

guest sharing. A facility that enables VSE/ESA to run as a guest operating system under VM/ESA and access a DB2 Server for VM database.

H

header pages. 4096-bytes that contain the control row describing the tables and indexes in the DBSPACE.

heterogeneous. See *unlike*.

heuristic commit. A commit of an in-doubt unit of work performed manually by an operator with the FORCE *n* COMMIT command.

heuristic damage. Heuristic damage has occurred if a heuristic commit or rollback was performed and then, at a later time, the transaction manager tries to resolve the in-doubt units of work but cannot due to the heuristic action taken previously by the operator. That is, the operator performed a heuristic commit and then the transaction manager requests that the unit of work be rolled back, or the operator performed a heuristic rollback and then the transaction manager requests that the unit of work be committed.

heuristic rollback. A rollback of an in-doubt unit of work performed manually by an operator with the FORCE *n* ROLLBACK command.

homogeneous. See *like*.

host-identifier. A name declared in the host program.

host language. Any programming language in which you can embed SQL statements.

host program. A program written in a host language that contains embedded SQL statements.

host variable. In an application program, a variable referenced by embedded SQL statements.

I

inactive key. A primary or foreign key that is not being enforced. A foreign key becomes dependently inactive when the primary key it references is made inactive.

inactive log. Used for alternate logging, this log will become the active log once the ARCHPCT value is reached.

inactive table. A table that has an inactive primary or foreign key, references an inactive *primary key*, or is referenced by an inactive *foreign key*.

independent table. A table that is not related to any other table through a referential constraint.

index. A set of pointers that are logically ordered by the values of a key. Indexes can provide quick access to data and can enforce uniqueness on the rows in a table.

index key. The set of columns in a table used to determine the order of index entries.

index pages. 4096-byte pages that contain the indexes on the tables in a DBSPACE.

index scan. (1) An access path that uses an index to retrieve the results of an SQL statement. (2) To retrieve all the rows using an index.

indicator variable. A variable used to represent the null value in an application program. If the value for the selected column is null, a negative value is placed in the indicator variable.

initial program load (IPL). (1) The initialization procedure that causes an operating system to commence operation. (2) The process of loading system programs and preparing a system to run jobs.

internet address. The unique 32-bit address identifying each node in an internet.

insert cursor. A cursor associated with an INSERT statement that an application uses to access rows in an active set.

insert rule. A condition enforced by the database manager that must be met before a row can be inserted into a table.

installation. (1) A particular computing system, including the work it does and the people who manage it, operate it, apply it to problems, service it, and use the results it produces. (2) The process of adding a product, such as the DB2 Server for VSE & VM database manager, to a computing system.

interactive processing. A processing method in which each user action causes a response from the program or system.

interactive SQL facility. An SQL application program that reads statements from a terminal, prepares and executes them dynamically, and displays the results to the user. The QMF™ and ISQL facilities use interactive SQL.

Interactive Structured Query Language (ISQL). A DB2 Server for VSE & VM *Interactive SQL Facility*.

internal dbspace. A temporary dbspace used by the database manager to perform tasks such as sorting data or processing a query.

International Standards Organization (ISO). An organization of national standards bodies from various countries established to promote development of standards to facilitate international exchange of goods and services, and develop cooperation in intellectual, scientific, technological, and economic activity.

IPINIT file. TCP/IP for VSE/ESA configuration file.

IPL. See *initial program load*.

ISO. See *International Standards Organization (ISO)*.

isolation level. An application attribute that defines the degree to which that application process is isolated from other currently executing application processes. The degree of independence that one *unit of work* has from another.

ISQL. See *Interactive Structured Query Language (ISQL)*.

J

join. A relational operation that allows retrieval of data from two or more tables based on matching column values.

K

key. One or more columns identified as such in the description of a table, index, or referential constraint.

keyword. In programming languages, a predefined word that has a special meaning or function. For example, in the DB2 Server for VSE & VM database managers, SELECT is the keyword used to retrieve data from a table.

L

labeled duration. A number that represents a duration of years, months, days, hours, minutes, seconds, or microseconds.

leaf page. An index page at the lowest level in the index tree structure; it contains key or TID pairs to the data in the table on which the index was created.

length attribute. A value associated with a string that represents the declared fixed or maximum length of the string.

like. Pertaining to two relational database management systems that are the same product (for example, both are DB2 Server for VM, both are DB2 Server for VSE, or one is DB2 Server for VM and the other is DB2 Server for VSE). Contrast with *unlike*.

literal. A string whose value is given by the content of the string itself. For example, the numeric literal 7 has the value 7. Synonym for *constant*.

little-endian. A format for storage or transmission of binary data in which the least significant bit (or byte) comes first. The reverse convention is big-endian.

load. To transfer data from one medium to another; for example, transferring data from a sequential file to a database, or transferring a program from DASD to computer memory.

local server. In VSE, a local server can be 1) a DB2 Server for VSE application server residing in the same VSE machine as the application program connecting to it, 2) a DB2 Server for VM application server accessed through VSE guest sharing. Contrast with *remote server*.

location. Either the name of a host or a relational database. The location is represented by an identifier of 1 to 18 characters.

lock escalation. A lock escalation occurs when the database manager increases the size of the data being locked. The database manager always escalates a lock to the dbspace level. (It does not increase locking from a row level to a page level.)

lock mode. The kind of lock that can be requested (and held). Possible lock modes are: IN, IS, IX, S, SIX, X, U, and Z.

locking. The mechanism used by the database manager to ensure the integrity of data. Locking prevents concurrent users from accessing inconsistent data.

locking hierarchy. A prescribed sequence for locking objects such that conflicts can be recognized at their highest level.

locking protocol. Rules followed by the system to assure that actions taken on behalf of LUWs are protected against interference from other LUWs.

log. A collection of records maintained by the database manager to describe events that occurred during operation of a database. This information is used for recovery if a failure occurs while the database manager is executing.

log archive. To copy the database log to tape or disk for the purpose of media recovery.

logical unit of work (LUW). A recoverable sequence of operations within an application process. At any time, an application process is a single unit of work, but the life of an application process can involve many units of work as a result of commit or rollback operations.

logical unit of work identifier (LUWID). A name that uniquely identifies a logical unit of work within a network.

logical unit type 6.2 (LU 6.2). The SNA logical unit type that supports general communication between programs in a distributed environment.

long string. A varying-length string whose maximum length is greater than 254 bytes or 127 double-byte characters.

LRB. Lock Request Block. A data area used to hold information about a lock request and define the characteristics of a lock on a data object.

LU 6.2. See *logical unit type 6.2*.

LUW. See *logical unit of work (LUW)*.

LUWID. See *logical unit of work identifier*.

M

mailbox. An area in which messages from one machine to another machine are constructed.

MBCS. See *Multi-byte character set (MBCS)*.

minidisk. A logical division of a physical direct access storage device.

mixed data string. A character string that can contain both single- and double-byte characters.

mixed single- and double-byte character set. A set of characters in which each character is represented by either 1 or 2 bytes. A mixed single- and double-byte character set combines characters from one single-byte character set and one double-byte character set.

multi-byte character set (MBCS). A set of characters in which each character is represented by 2, 3, 4 or more bytes. Multi-byte character sets which have characters encoded using only 2 bytes are more commonly known as double-byte character sets (DBCS).

multicolumn key. A key composed of more than one column.

multiple user mode. A mode of operating the database manager in which one or more users or application programs can access the database at the same time. Contrast with *single user mode*.

N

national language support (NLS). National language support allows messages to be displayed in the language of your choice.

navigational database. A database system in which the user performs the logic needed to find the data. Contrast with *relational database*.

network byte order. Also big-endian byte order. The socket interface requires that addresses are in network byte order.

NLS. See *national language support*.

nonexposed name. Names specified in a FROM clause are exposed or nonexposed. A nonexposed name is a table or view name for which a correlation name is specified. Contrast with *exposed name*.

noninteractive processing. A processing method in which an application program is executed with no user interaction.

nonleaf page. An index page at the intermediate level in the index tree structure; it contains page numbers of pages in the next level in the index tree structure.

nonpreemptive. An environment in which agents willingly relinquish control of the processor; agents are not interrupted.

nonrecoverable storage pool. A storage pool for which the database manager does not provide automatic recovery to restore data to the condition it was in before a failed operation or a system failure.

NUL. In C, a single character that denotes the end of the string in a C NUL-terminated host variable.

not fenced. This term is used to describe a stored procedure that has nothing separating it from the database control structures that are used by the database manager.

null. A special value that indicates the absence of information.

NUL-terminated host variable. A varying-length host variable where the length of the data is indicated by the presence of a NUL-terminator.

NUL-terminator. The value in a NUL-terminated host variable that indicates the end of the string. For character strings, the NUL-terminator is X'00'.

O

object. Anything that can be created or manipulated with SQL - for example, tables, views, indexes, or packages.

online. Pertaining to a user's ability to interact with a computer from a terminal or workstation.

operator command. A command that controls the operation, or provides information, about the operation of the database manager.

optimizer. A component of a relational DBMS that carries out the logic required to find data in a database. The optimizer determines the *access path*.

ordinary identifier. An uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character. An ordinary identifier must not be a *reserved word*.

ordinary token. A numeric constant, an ordinary identifier, a host identifier, or a keyword.

overflow. The leftmost part of the result of an operation (arithmetic or data movement) that exceeds the capacity of the intended unit of storage.

owner. The authorization ID associated with an SQL object.

P

package. A control structure produced during program preparation that is used to execute SQL statements. Previously called *access module*.

packed decimal format. A format in which each byte in a field, except the rightmost byte, represents two numeric digits. The rightmost byte contains one digit and the sign; for example, the decimal value 123 is represented as 0001 0010 0011 1111.

packed decimal notation. A binary-coded decimal notation in which two consecutive decimal digits, each having 4 bits, are represented by one byte. The datetime data types use this notation.

parameter. A variable that is given a constant value for a specified operation.

parameter marker. A question mark (?) that appears in a statement string of a *dynamic SQL* statement. The question mark indicates that a host variable can appear if the statement string was a static SQL statement.

parent row. A row that has at least one dependent row.

parent table. A table that is a parent in at least one referential constraint.

PassTicket. An alternative to the RACF password that permits workstations and client machines to communicate with the host. It allows a user to gain access to the host system without sending the RACF password across the network. PassTickets are supported by RACF V1R10 for VM (5740-XXH) or later.

phantom row. A table row that can be read by application processes being executed with any isolation level except repeatable read. When the application process issues the same query multiple times, additional rows called phantom rows can appear in between queries because of data being inserted and committed by concurrently executing application processes.

placeholder. Symbol representing a quantity that can assume any of a given set of values.

PL/I (Programming Language/One). A high-level programming language designed for use in a wide range of commercial and scientific computer applications.

port. (1) An endpoint for communication between devices, generally referring to a logical connection. (2) A 16-bit number identifying a particular TCP or UDP resource within a given TCP/IP node.

portability. The ability to run a program on more than one processor without changing it. Portable packages can be created on one processor and used in another.

portable package. A file containing a package that can be used by *like* and *unlike* database managers.

positional parameter. A parameter that must be in a specified location relative to other parameters.

precision. The total number of binary or decimal digits excluding the sign.

predicate. An element of a search condition that expresses or implies a comparison operation.

prepared SQL statement. The executable form of an SQL statement that has been processed by the PREPARE statement.

preprocess. The process of generating executable SQL statements from SQL statements in an application program. Preprocessed SQL statements are stored in (bound to) a database in a *package*. The SQL statements in the source code are replaced with calls to sections of the package that are derived from the original SQL statements.

primary key. A unique key that is part of the definition of a table. If the table is a parent in a referential constraint, the values of its primary key determine the valid values of the foreign key of the constraint.

private dbspace. A logical space in a database owned by one user.

privilege. The right or authority to access a specific database object in a specified way.

program preparation. The process of producing an executable program. This process includes precompilation, compilation, and bind.

PROGS. A table used by RDS to keep track of loaded packages.

protocol. The rules that must be followed by two communication stations or processes. The protocol defines the actions that can be taken by a station when it receives a transmission or detects an error condition.

pseudo agent. A DB2 Server for VSE & VM structure that is allocated to a user upon establishing an IUCV or APPC/VM connection with the database machine, or to a remote requestor upon establishing a connection with the DB2 Server for VSE application server.

public dbspace. A logical space in a database that is accessible to many users.

Q

QMF. See *Query Management Facility*.

quantified predicate. A predicate that compares a value with a set of values.

query. A component of certain SQL statements that specifies a result table. A request for data using an SQL SELECT statement.

query cursor. A cursor associated with a SELECT statement and used by an application program to access rows in a result table.

Query Management Facility (QMF). An *interactive SQL facility*.

R

RDBMS. See *relational database management system*.

RDIIN. The key input data area to RDS from a DB2 Server for VSE & VM application program.

RDS. See *relational data system*.

real storage. The main storage in a virtual storage system. Physically, real storage and main storage are identical. Conceptually, however, real storage represents only part of the range of addresses available to the user of a virtual storage system.

rebind. To recreate a package. Rebinding can occur when (1) An application program is reprocessed, (2) The system dynamically rebinds any invalid package, or (3) A DBS Utility RELOAD PACKAGE or REBIND PACKAGE command is issued.

recoverable storage pool. A storage pool that protects its data by using the database manager's automatic recovery facilities to restore data to the condition it was in before failed operations or system failure.

recovery. The process of rebuilding databases after a system failure.

referential constraint. The referential integrity rule that the non-null values of the foreign key are valid only if they also appear as values of a primary key.

referential cycle. A set of referential constraints such that each table in the set is a descendent of itself.

referential integrity. The state of a database in which all values of all foreign keys are valid.

referential structure. A set of tables that are related to each other by *referential constraints*.

registered. In a distributed environment, a database is registered by including it in a corporate database directory service. A registered database is uniquely identified by its *server-name*.

relational data system (RDS). A component of the DB2 Server for VSE & VM database manager that supports the relational model of data; letting users conceptualize data as rows and columns of a table. Also translates SQL statements for the database storage system.

relational database. A database that can be perceived as a set of tables and manipulated in accordance with the relational model of data.

relational database management system (RDBMS). A database management system that is based on the relational database model. The DB2 Server for VSE & VM relational database management system are examples.

remote server. In VSE, a remote server is 1) a DB2 Server for VSE application server not residing in the same VSE machine as the application program connecting to it, 2) a DB2 Server for VM application server not accessed through Guest Sharing by a VSE batch or CICS application program, 3) a non-DB2 Server for VSE application server which supports IBM's implementation of the DRDA protocol. Contrast with *local server*.

remote unit of work. Lets a user or application program read or update data at one remote location per unit of work. With remote unit of work, you can have many SQL statements within a unit of work; you can access one database management system with each SQL statement; and you can access one database management system within a unit of work.

remote unit of work protocol. Communication protocols for *unlike* databases such as DB2 Server for VSE and DB2 UDB for OS/390.

repeatable read (RR). An isolation level that completely isolates an application process from all other concurrently executing application processes. Under level RR, (1) rows read during a unit of work cannot be changed by concurrently executing application processes until the unit of work is complete and (2) rows changed by concurrently executing application processes cannot be read until they are committed by that application process, and (3) phantom rows are prevented.

reserved word. A keyword in a programming language than cannot be used as an identifier in a statement.

residency mode (RMODE). Identifies where in virtual storage a loaded program can reside; above or below 16M.

resource. A facility of a computing system, such as main storage, programs, the processing unit, or database storage.

RESOURCE authority. The authority to create tables in a public dbspace and to acquire a private dbspace.

restart table. The table from which RELOAD will begin reloading when the RELOAD command is entered with the RESTARTTABLE parameter.

restrict. A delete rule that does not allow a parent row to be deleted if it has dependent rows.

result set. The set of rows returned to a client application by a stored procedure.

result set locator. A 4-byte value used to uniquely identify a query result set returned by a stored procedure.

result table. A set of rows produced by the evaluation of a SELECT statement. See also *active set*.

REXX. A procedural language that allows programs and algorithms to be written in a clear and structured way.

RMODE. See *residency mode*.

rollback. The process of restoring data changed by SQL statements to the state at its last commit point. All locks are freed. Contrast with *commit*.

ROLLBACK WORK. The end of a logical unit of work that results in the backout of its changes to the database.

root page. The highest level in the index tree structure.

routine. A series of commands and statements stored under an identifying name.

row. The horizontal component of a table. A row consists of a sequence of values, one for each column of the table.

RR. See *repeatable read*.

S

saved segment. An area of virtual storage that was previously loaded, saved, and assigned a unique name. See also *discontiguous shared segment*.

SBCS. See *single-byte character set*.

SBCS data. Data in which every character is represented by a single byte.

scalar function. An SQL operation that produces a single value from another value and is expressed as a function name followed by a list of arguments enclosed in parentheses.

scale. The number of digits in the fractional part of a number.

schema. The set of statements, expressed in data definition language, that completely describe the structure of a database. SCHEMA is a Database Services Utility command that allows you, under the specified authorization ID, to read the text of a schema and execute the statements in it.

search condition. A criterion for selecting rows from a table. A search condition consists of one or more predicates.

section location table (SLT). Directory of sections and their corresponding statements in a package.

select-list. The column names specified by an SQL SELECT statement.

select-statement. A query that can be directly specified in a DECLARE CURSOR statement, or prepared and then referenced in a DECLARE CURSOR statement. A select-statement is a fullselect that also optionally contains ORDER BY or UPDATE clauses.

self-referencing row. A row that is a parent of itself. Not directly supported by the DB2 Server for VSE & VM database manager.

self-referencing table. A table that is a parent and a dependent in the same referential constraint. Not directly supported by the DB2 Server for VSE & VM database manager.

server-name. A name up to 18 characters that uniquely identifies and fully qualifies a database.

set null. A delete rule that allows the *parent row* to be deleted and automatically sets to null the nullable *foreign key* columns in all *dependent rows*. Do not confuse with the ISQL SET NULL command.

SFS directory. See *shared file system directory*.

share lock. A lock that limits concurrently executing application processes to read-only operations on row data.

shared file system directory (SFS directory). A part of CMS that allows users to organize their files into groups known as directories, and to selectively share those files and directories with other users.

shared segment. An area of virtual storage that was previously loaded, saved, and assigned a unique name. The segment or segments can contain only read-only data or reentrant code that many users can share. See also *discontiguous shared segment*. Also called DCSS.

shift-in character. A special control character (X'0F') used in EBCDIC systems to denote that the following bytes represent SBCS characters. See *shift-out character*.

shift-out character. A special control character (X'0E') used in EBCDIC systems to denote that the following bytes (up to the next shift-in control character) represent DBCS characters.

short string. A fixed-length or a varying-length string whose maximum length is less than or equal to 254 bytes (127 double-byte characters).

single-byte character set (SBCS). A set of characters in which each character is represented by 1 byte. National languages such as English or French, and computer languages such as EBCDIC or ASCII use single-byte character sets.

single user mode. A mode of operation in which the database manager and one application run in the same partition. No other application programs or users can access the database at the same time. Contrast with *multiple user mode*.

SNA. See *Systems Network Architecture*.

socket. (1) An endpoint for communication between processes or applications. (2) A pair consisting of TCP port and IP address, or UDP port and IP address.

special register. A storage area that is defined for an application process by the database manager and is used to store information that can be referenced in SQL statements. Examples are USER and CURRENT DATE.

SPM. See *sync point manager*.

SQL (Structured Query Language). See *Structured Query Language*.

SQL92. A term that refers to the combination of the following standards:

- ISO (International Standards Organization) 9075-1992(E)
- ANSI (American National Standard for Information Systems) X3.135-1992
- FIPS (Federal Information Processing Standards) publication 127-2

These documents list more than one level of conformance. The levels are Entry, Transitional (FIPS only), Intermediate, and Full SQL. SQL92 as used by DB2 Server for VSE & VM refer to the Entry level.

SQL comment. Any text that follows two consecutive hyphens (--) on one line of a static SQL statement in an application program or DBS Utility, or in the command portion of a DBS Utility command. Compare with *host language comment*.

SQL communication area (SQLCA). A set of variables that provides an application program with information about the execution of its SQL statements.

SQL descriptor area (SQLDA). A set of variables that is used to provide description information in the execution of certain SQL statements. It may be used to describe columns, input variables, or output variables. The SQLDA is used with dynamic SQL.

SQL object. See *object*.

SQL return code. See *SQLCODE* and *SQLSTATE*.

SQLCA. See *SQL communication area (SQLCA)*.

SQLCODE. A code set by the database manager after an SQL statement is executed to indicate the success or failure of the SQL statement. The value returned in the SQLCODE is specific to the DB2 Server for VSE & VM database managers. Contrast with *SQLSTATE*. See also *SQL communication area*.

SQLDA. See *SQL descriptor area (SQLDA)*.

SQLSTATE. A code set by the database manager after an SQL statement is executed to indicate the success or failure of the SQL statement. The value returned in the SQLSTATE is common to the SAA-participating database products. See also *SQLCODE* and *SQL communication area*.

SQL/DS. See *Structured Query Language/Data System*.

SQLDS protocol. A private flow used for communication between 1) a DB2 Server for VM application requester and a DB2 Server for VM application server, 2) a DB2 Server for VSE application requester and a DB2 Server for VM application server via Guest Sharing, 3) a DB2 Server for VSE application requester and a DB2 Server for VSE application server residing in the same VSE machine as the DB2 Server for VSE application requester. Contrast with *remote unit of work protocol*.

statement. An instruction in a program or procedure. A language construct that represents a step in a sequence of actions. Contrast with *command*.

static SQL. SQL statements that are embedded within a program, and are prepared during the program preparation process before the program is executed. After being prepared, the statement itself does not change (although the values of host variables specified by the statement may change).

storage pool. A specific set of available storage areas. These areas are used by the database administrator to control storage of the database. A storage pool contains one or more dbspaces.

stored procedure. A user-written application that is compiled and stored at the server.

stored query. An SQL statement stored in a database that can be recalled by typing a preassigned name.

Stored Procedure Handler. A DB2 Server for VSE & VM supplied application that runs in the Stored Procedure Server. It is the interface between the database manager and the stored procedure.

Stored Procedure Server. In VM, a virtual machine in which a stored procedure runs. In VSE, a partition in which a stored procedure runs.

stream socket. A reliable connection oriented service. Data is sent without errors or duplication and is received in the same order as it is sent.

string. See *character string* or *graphic string*.

Structured Query Language (SQL). A language for managing data in a relational database. Many non-IBM relational database products use the Structured Query Language.

Structured Query Language/Data System (SQL/DS). Pertaining to the IBM licensed program for the VM and VSE environments. For Version 5 Release 1, the product name (SQL/DS) has been changed to DB2 Server for VSE & VM.

subquery. A subselect used within a predicate. For example, a select-statement within the WHERE or HAVING clause of another SQL statement.

subselect. A form of query that does not include the ORDER BY clause, the UPDATE clause, or UNION operators.

substitution character. A unique character that is substituted during character conversion for any characters in the source coding representation that do not have a match in the target coding representation.

subtype. A specification that indicates how to interpret character data to the database manager. Subtypes enable character columns to be used for bit data, SBCS data, or mixed data.

sync point manager (SPM). This system function is responsible for coordinating two-phase commit activity. That is, the sync point manager ensures that updates to multiple sites are either all committed or all rolled back.

sync point tree. A method used to conceptually organize all the protected conversations that are coordinated by a sync point manager in a transaction. The sync point tree consists of nodes that contain the targets of protected conversations.

synonym. A user's alternative name for a table or view.

system communications directory. A CMS communications directory that resides at a system-wide or TSAF collection-wide location. See *CMS communications directory*.

Systems Network Architecture (SNA). The IBM architecture that describes a logical structure, format, protocol, and operational sequence for transmitting information units through a network. It also controls the configuration and operation of a network.

T

table. A named data object consisting of a specified number of columns and any number of unordered rows.

table designator. A column name qualifier that designates a specific object table. This can be a table or view name, a *synonym* or a *correlation name*.

TCP. Transmission Control Protocol

TCP/IP. Transmission Control Protocol/Internet Protocol

task-related user exit (TRUE). Allows a CICS transaction to access an external CICS resource, such as a database, that would not otherwise be available to the CICS system.

TID. Tuple identifier. An internal identification of a row (tuple).

time. A three-part value that designates a time of day in hours, minutes, and seconds.

time duration. A value that represents a number of hours, minutes, and seconds.

timestamp. A seven-part value that consists of a date and time, expressed in years, months, days, hours, minutes, seconds, and microseconds.

timestamp duration. A value that represents a number of years, months, days, hours, minutes, seconds, and microseconds.

token. The basic syntactic unit of a computing language. A token consists of one or more characters, excluding the blank character and the characters within a string constant or delimited identifier.

Transparent Services Access Facility (TSAF). A component of VM that handles communication between systems by letting APPC/VM paths span multiple VM systems. TSAF lets a source program connect to a target program by specifying a name identified by the target program, instead of an authorization ID and node ID.

truncation. The deletion or omission of a leading or trailing portion of a string in accordance with specified criteria. The termination of a computation process, before its normal conclusion or natural termination, if any, and in accordance with specified rules.

TRUE. See *task-related user exit*.

TSAF. See *Transparent Services Access Facility*.

TSAF collection. A group of VM processors, each with a TSAF virtual machine, connected by channel to channel, binary synchronous lines, or LANs.

U

UCS. Universal Character Set

UCS-2. Unicode (UCS-2) is the two-byte version of the ISO/IEC 10646-1 standard. It is the Basic Multilingual Plane (BMP) of 10646 -- the only part of the 10646 standard which is currently defined.

UDP. User Data Protocol.

uncommitted read (UR). An isolation level that allows, for read-only operations, (1) any row that is read during the unit of work to be changed by other application processes and (2) any row that was changed by another application process to be read even if the change has not been committed by that application process. For other operations, the rules of CS apply. Read-only operations are SELECT INTO, FETCH with read-only cursor, and subselect used in a subquery.

UNION. An SQL operation that combines the results of two subselects. The UNION operation is used to merge lists of values obtained from several tables.

unique constraint. One or more non-nullable columns that uniquely identify each row in a table. These columns are identified as a unique constraint in the table definition. A unique constraint is similar to a primary key, but cannot be referenced by a foreign key. A table may have more than one unique constraint.

unique index. An index that ensures that no identical key values are stored in a table.

unique key. A key that is constrained so that no two of its values are equal.

unit of recovery. See *logical unit of work*.

unit of recovery descriptor (URD). Describes a unit of recovery about which an external resource manager may be in-doubt owing to a connection failure between CICS and the resource manager. When CICS is unable to complete a syncpoint request to an external resource manager such as DB2 Server for VM, it records the state of the LUW by creating an URD.

unit of work. See *logical unit of work (LUW)*.

unlike. Pertaining to relational database management systems that are different products (for example, the DB2 Server for VSE and DB2 UDB for OS/390). Contrast with *like*.

update rule. A condition enforced by the database manager that must be met before a column can be updated.

user communications directory. A CMS communications directory that resides on a user's virtual machine. See *CMS communications directory*.

user ID. A string of characters that uniquely identifies a user to a system. Contrast with *authorization ID*.

user machine. A virtual machine containing the user's application program and an application requester.

UR. See *uncommitted read*.

URD. See *unit of recovery descriptor*.

V

value. Smallest unit of data manipulated in SQL.

variable. A data element that can assume any of a given set of values. Contrast with *constant*.

varying-length string. A character or graphic string whose length can vary from zero up to a specified limit. Contrast with *fixed-length string*.

view. An alternative representation of data from one or more tables. A view can include some or all of the columns contained in the table or tables on which it is defined.

Virtual Machine (VM). A functional simulation of a computer and its associated devices. VM manages the computer's resources in such a way that all workstation users have their own virtual machine. All users can work at their virtual machines as though each is the only person using the real computer.

Virtual Telecommunications Access Method (VTAM®). An IBM licensed program that controls communication and the flow of data in a computer network. It provides single-domain, multiple-domain, and multiple-network capability. VTAM runs under MVS, OS/VS1, VM, and VSE.

VM. See *Virtual Machine (VM)*.

VM/ESA. Virtual Machine/Enterprise Systems Architecture. The 370 Feature addresses a maximum of 16 megabytes of virtual storage per virtual machine. The ESA Feature addresses a maximum of 2 gigabytes of virtual storage per virtual machine.

VSE. Virtual Storage Extended.

VSE/ESA. Virtual Storage Extended/Enterprise Systems Architecture.

VTAM. See *Virtual Telecommunications Access Method*.

W

well-known port. A port number that has been preassigned for specific use by a specific protocol or application. Clients and servers using the same protocol communicate over the same well-known port.

work unit manager (WUM). A component of the DB2 Server for VSE & VM database manager that interfaces between the DRDA component DRRM and the non-DRDA components RDS and DSC.

workstation. A device, usually equipped with a keyboard and display device capable of sending and receiving information. A workstation can be programmable or nonprogrammable. Nonprogrammable workstations are also called nonprogrammable terminals.

WUM. See *work unit manager*.

Index

Special characters

- (subtract) operator SQLREF-71
- : (colon)
 - See host variable
- !! (concatenate) operator SQLREF-71
- ? (question mark)
 - See parameter marker
- /
 - initialization option OPER-9
- * (asterisk)
 - in subselect SQLREF-122
- * (multiply) operator SQLREF-71
- *IDENT PERF-29
- %
 - archive percent OPER-180
 - free space, dbspace OPER-86
 - log cushion percent OPER-187
- >
 - convention APP-xiii
 - See also shift-in character APP-51
- > (greater than) operator SQLREF-79, SQLREF-80
- > shift-in character SQLREF-6
- >= (greater than or equal to) operator SQLREF-79, SQLREF-80
- <
 - convention APP-xiii
 - See also shift-out character APP-51
- < (less than) operator SQLREF-79, SQLREF-80
- < shift-out character SQLREF-6
- <> (not equal to) operator SQLREF-79, SQLREF-80
- <= (less than or equal to) operator SQLREF-79, SQLREF-80
- || (concatenate) operator SQLREF-71
- + (add) operator SQLREF-71
- = (equal to) operator
 - in predicate SQLREF-79, SQLREF-80
 - in UPDATE statement SQLREF-340
- ≠ (not equal to) operator SQLREF-79, SQLREF-80
- / (divide) operator SQLREF-71
- ^= (not equal to) operator SQLREF-80

Numerics

- 16MB line
 - storage above PERF-47
 - storage queue PERF-46
 - virtual addressability extension PERF-80
- 24-bit addressing APP-112
- 31 bit addressing
 - advantages PERF-47
 - storage queue PERF-46
 - virtual addressability extension PERF-80
- 31-bit addressing APP-112, PERF-27
- 3270 display terminal ISQL-1
- 3370 storage device SYVM-10

- 3370 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6
- 3375 storage device SYVM-10
- 3375 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6
- 3380 storage device SYVM-158, SYVM-10
- 3380 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6
- 3390 storage device SYVM-10
- 3390 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6
- 370 mode SYVM-90
- 5697F42 MEMO PERF-175
- 5697F42 MEMO
 - loading PERF-175
- 9332 storage device SYVM-10
- 9332 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6
- 9335 storage device SYVM-10
- 9335 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6
- 9345 storage device SYVM-10
- 9345 storage device
 - directory size SYVM-15, SYVM-15
 - production minidisk size SYVM-6
 - service minidisk size SYVM-6
 - work minidisk size SYVM-6

A

- ABNEXIT DIAG-275
- ABNEXIT
 - considerations SYVM-87
 - DB2 Server for VM usage SYVM-86
- ABNEXIT macroinstructions DBA-126
- abnormal end DBA-126, DBA-127
- abnormal end
 - CICS code AEY9 SYVM-99, SYVM-130, SYVM-83, SYVM-114
 - CICS code ASP7 SYVM-130, SYVM-132, SYVM-114, SYVM-116
 - CICS code ASRA SYVM-130, SYVM-114
- abnormal end (*continued*)
 - exit SYVM-86
 - in a field procedure SYVM-372, SYVM-293
 - log-full condition SYVM-70, SYVM-63
 - recovery from OPER-147
 - SLOGCUSH SYVM-70, SYVM-63
 - STXIT exit SYVM-74
- abnormal end user exits DIAG-275
- abnormal termination DIAG-83, DIAG-271
- absolute share PERF-79
- ACB control block of VSAM DIAG-281
- access
 - concurrent APP-258
 - filtered database OPER-182
 - table belonging to other users APP-30
- ACCESS
 - restriction SYVM-141
- access generation DIAG-38
- access generation
 - description DIAG-38
- access generator tracing OPER-164, OPER-192
- access method services LISTCAT
 - command SYVM-189
- access module
 - See package
- access path
 - choosing PERF-135
 - dbspace scan PERF-118
 - disadvantages of indexes PERF-121
 - index scan PERF-118
 - index-only access PERF-119
 - inefficient choices DIAG-151, DIAG-187
 - influencing PERF-117
 - locking PERF-96
 - types PERF-117, PERF-119
 - unique index with key matching
 - predicate PERF-120
 - with unclustered index PERF-118
- access privilege SQLREF-33
- accessing
 - checking which application server DBA-261
 - table belonging to other users ISQL-84
- ACCESSLIST directory statement PERF-178
- ACCOUNT
 - initialization option OPER-45
 - initialization parameter OPER-193, OPER-195
- ACCOUNT initialization parameter SYVM-60, SYVM-53
- accounting
 - ALTACCT command OPER-45
 - ARIACC1 file OPER-45
 - ARIACC2 file OPER-46
 - in DRDA environment SYVM-195

- accounting (*continued*)
 - job control SYVM-187
 - measurement tool PERF-9
 - switching to alternate files OPER-45
 - tape OPER-45
- accounting facility DBA-208
- accounting facility
 - account numbers for users SYVM-339, SYVM-263
 - accounting exits SYVM-339, SYVM-263
 - converting data SYVM-208
 - dbspace SYVM-258, SYVM-203
 - displaying statistics SYVM-60, SYVM-54
 - enabling SYVM-60, SYVM-53
 - exit SYVM-344, SYVM-268
 - generating records SYVM-251, SYVM-195
 - introduction SYVM-249, SYVM-187
 - job control SYVM-187
 - loading data SYVM-262, SYVM-206
 - maintaining accounting data SYVM-258, SYVM-202
 - OPTION statement SYVM-249
 - records SYVM-253, SYVM-197
 - setting up your system SYVM-187
 - starting SYVM-250
 - tables SYVM-259, SYVM-203
 - using SYVM-249
- accounting file job control
 - Native SAM example SYVM-190
 - tape example SYVM-192
 - VSAM example SYVM-189
- accounting file, alternate SYVM-187
- accounting record format
 - CMS user SYVM-255
 - DRDA records SYVM-201
 - initialization SYVM-254, SYVM-198
 - operator/checkpoint SYVM-254, SYVM-198
 - remote user SYVM-256, SYVM-200
 - termination SYVM-255, SYVM-199
 - user SYVM-199
 - VSE guest user SYVM-257, SYVM-202
- ACCT operand for accounting
 - directory entries
 - for accounting SYVM-249
- ACQUIRE
 - performance problem index DIAG-137
- ACQUIRE DBSPACE DBA-26
- ACQUIRE DBSPACE
 - allocating dbspace storage PERF-65
 - how it works DIAG-329
 - minimum lock level PERF-96
- ACQUIRE DBSPACE statement
 - description SQLREF-145
 - EXECUTE IMMEDIATE statement SQLREF-272
 - PREPARE statement SQLREF-315
- acquiring dbspace
 - for packages SYVM-153, SYVM-129
 - for use DBA-20
 - PRIVATE dbspace DBA-22
 - PUBLIC dbspace DBA-22
- activate
 - all keys and constraints on a table DBA-68
 - primary key DBA-68
 - unique constraint DBA-68
- ACTIVATE ALL clause
 - of ALTER TABLE statement SQLREF-163
- ACTIVATE FOREIGN KEY clause
 - of ALTER TABLE statement SQLREF-164
- ACTIVATE PRIMARY KEY clause
 - of ALTER TABLE statement SQLREF-163
- ACTIVATE UNIQUE clause
 - of ALTER TABLE statement SQLREF-164
- activating
 - foreign key ISQL-81
 - primary key ISQL-81
 - unique constraint ISQL-81
- activating and deactivating keys
 - SQLREF-17
- active set
 - DECLARE CURSOR statement SQLREF-237
 - description SQLREF-11
- ACTIVITY sample table DBSU-242, ISQL-150, SQLREF-410
- adapter, online resource OPER-18, OPER-19
- ADD PERF-49
- ADD clause
 - of ALTER TABLE statement SQLREF-158
- ADD DBEXTENT operation
 - initialization parameters SYVM-140
- ADD DBSPACE operation
 - control statements SYVM-126
 - initialization parameters SYVM-127
 - restarting after a failure SYVM-149
 - SQLADBSP EXEC SYVM-146
- adding
 - a new DB2 user
 - to DB2 Server for VSE & VM application server DBA-81
 - to non-DB2 Server for VSE & VM application server DBA-81
 - alternate HELP text languages DBA-139
 - column to a table DBA-65, DBA-189, ISQL-79
 - columns
 - to a table APP-261
 - dbextents storage OPER-188
 - dbextents SYVM-136
 - dbextents
 - caution regarding SYVM-167
 - initialization parameters SYVM-162, SYVM-140
 - dbspace DBA-20
 - dbspaces
 - initialization parameters SYVM-146, SYVM-127
 - dbspaces storage OPER-188
 - foreign key ISQL-81
 - HELP text topic DBA-143
- adding (*continued*)
 - in SQL expressions APP-52
 - index to a table DBA-190
 - primary key ISQL-80
 - referential constraint ISQL-81
 - row to a table
 - data from another table ISQL-78
 - storage pools SYVM-157, SYVM-133
- additional databases SYVM-286
- additional predicates APP-43
- address
 - alternate tape drive SYVM-76
 - alternative tape drive OPER-11
 - SHOW ADDRESS command OPER-69
 - SHOW ADDRESS example OPER-70
 - showing address for modules OPER-69
- address space
 - size PERF-47
 - virtual addressability extension PERF-79
 - virtual disk PERF-48, PERF-54
- addressability extension
 - virtual PERF-79
- addressing PERF-43
- addressing type
 - AMODE initialization parameter SYVM-55, SYVM-78
 - TRACEBUF initialization parameter SYVM-72, SYVM-67
- ADDRSPACE directory statement PERF-178
- ad hoc query
 - isolation level PERF-113
 - temporary table PERF-113
 - view PERF-113
- adjacent index page locking
 - possible lock wait problems DIAG-145
- adjacent key locking
 - definition DIAG-145
 - example DIAG-164
 - possible lock wait problems DIAG-145
 - possible problems in catalogs DIAG-163
- adjusting bias of dispatcher OPER-181
- administration
 - authority SQLREF-33
- advanced program-to-program communication (APPC/VM) DIAG-27
- advanced program-to-program communication/virtual machine
 - application program usage SYVM-96
 - inter-machine communications SYVM-94
- AG trace OPER-164, OPER-192
- agent OPER-65
- agent
 - being held DIAG-148
 - checkpoint OPER-66, PERF-88
 - definition OPER-15
 - deprived PERF-93
 - description OPER-65
 - determining agent number OPER-51, OPER-66
 - dispatching PERF-92

agent (*continued*)
 displaying status OPER-66
 forcing agents OPER-67
 generating OPER-184
 inactive users OPER-136
 increasing DIAG-150
 index on related performance
 problems DIAG-140
 operator PERF-88
 operator agent OPER-65
 priority SYVM-66, SYVM-60
 processing at end of an LUW
 DIAG-24
 pseudo PERF-90
 ready/recovery agent OPER-65
 real PERF-88
 structure
 virtual addressability extension
 PERF-80
 too many DIAG-230
 tracing OPER-192, OPER-193
 user PERF-88

agent handling DIAG-20

agent handling
 agent processing DIAG-24
 allocating users DIAG-20
 dispatcher components DIAG-21
 dispatching agents DIAG-23
 fair share auditing process DIAG-22
 finding deprived agents DIAG-22
 functional description DIAG-19
 prioritization of agents DIAG-21
 pseudo DIAG-20
 real DIAG-20
 setting fair share interval size
 DIAG-22

agent identifier OPER-66

agent number OPER-66

agent structure
 checkpoint OPER-66
 definition OPER-15
 description OPER-65
 determining agent number OPER-51,
 OPER-66
 displaying status OPER-66
 forcing agents OPER-67
 generating OPER-184
 inactive users OPER-136
 operator agent OPER-65
 ready/recovery agent OPER-65

agent structures
 description SYVM-94

AGENT trace OPER-192, OPER-193

ALL
 clause of EXPLAIN statement
 SQLREF-275
 clause of subselect SQLREF-122
 clause of UPDATE STATISTICS
 statement SQLREF-345
 granting to multiple users ISQL-82
 in a quantified predicate SQLREF-80
 keyword
 AVG function SQLREF-91
 column function SQLREF-91
 MAX function SQLREF-93
 MIN function SQLREF-94
 SUM function SQLREF-95

ALL (*continued*)
 select-clause APP-29

ALL BUT
 FORMAT command ISQL-42

ALL clause
 of GRANT statement SQLREF-294
 of REVOKE statement SQLREF-331

ALL keyword
 subqueries APP-78

ALL PRIVILEGES clause
 of GRANT statement SQLREF-294
 of REVOKE statement SQLREF-331

ALLOCATE CURSOR statement
 description SQLREF-147, SQLREF-148

ALLOCATE statement of PL/I APP-390

allocating dbextent data sets SYVM-134

allocating dbextent minidisks SYVM-158

allocating users to agent structures
 DIAG-20

allocating users to agents PERF-89

ALLUSERS DBA-103

ALLUSERS
 authorization ID DBA-103
 in CONNECT clause of GRANT
 statement SQLREF-291,
 SQLREF-292
 in CONNECT clause of REVOKE
 statement SQLREF-329

alphabetic extender
 basic symbol SQLREF-35

ALT option
 FILEDEF command SYVM-76

ALT option of FILEDEF command
 OPER-11

ALTACCT command OPER-46,
 SYVM-187

ALTER
 performance problem index DIAG-137
 restriction for view DBA-45

ALTER clause
 of GRANT statement SQLREF-294
 of REVOKE statement SQLREF-331

ALTER DBSPACE
 free space in a data page PERF-61
 how it works DIAG-330
 lock escalation PERF-99

ALTER DBSPACE statement
 description SQLREF-149
 EXECUTE IMMEDIATE statement
 SQLREF-272
 PREPARE statement SQLREF-315

ALTER privilege
 in ALTER TABLE statement
 SQLREF-158

ALTER PROCEDURE
 how it works DIAG-330

ALTER PROCEDURE statement
 description SQLREF-151
 EXECUTE IMMEDIATE statement
 SQLREF-272

ALTER PSERVER
 how it works DIAG-330

ALTER PSERVER statement
 description SQLREF-156,
 SQLREF-217, SQLREF-261,
 SQLREF-262

ALTER PSERVER statement (*continued*)
 EXECUTE IMMEDIATE statement
 SQLREF-272

ALTER TABLE ISQL-79

ALTER TABLE
 activating keys and constraints
 DBA-67
 adding column to a table DBA-189
 inactive key, table, constraint DBA-66
 privileges APP-292

ALTER TABLE statement SYVM-372,
 SYVM-293

ALTER TABLE statement
 description SQLREF-158
 EXECUTE IMMEDIATE statement
 SQLREF-272
 GRANT statement SQLREF-294,
 SQLREF-295
 PREPARE statement SQLREF-315

ALTERAUTH column SQLREF-369

ALTERAUTH column
 of SYSTABAUTH SQLREF-404

altering
 sorting sequence of a column
 SYVM-369, SYVM-290
 SQL line ISQL-34
 SQL statement ISQL-35
 table APP-261
 table
 activating keys and constraints
 DBA-68
 adding foreign key ISQL-81
 adding primary key ISQL-80
 authorization DBA-64
 deactivate primary/foreign key
 DBA-68
 deactivating foreign key ISQL-81
 deactivating primary key ISQL-81
 deactivating unique constraint
 ISQL-81
 design DBA-64
 inactive key, table, constraint
 DBA-66

alternate accounting file SYVM-187

alternate accounting files OPER-45

alternate logging DIAG-57, PERF-105

alternate logging
 using SYVM-229, SYVM-169

alternate tape drive
 virtual device address SYVM-76

alternative character sets SYVM-308,
 SYVM-234

alternative tape drive, virtual device
 number OPER-11

ALTLOG initialization parameter
 SYVM-229, SYVM-169

ALTNAME column SQLREF-369

ALTNAME column
 of SYSSYNONYMS SQLREF-402

ambiguous reference
 column name SQLREF-66

AMODE parameter
 in the SQLDBN file SYVM-291
 SQLDBGEN SYVM-288
 SQLDBINS SYVM-287
 SQLLOG SYVM-232
 SQLSTART SYVM-55

AMODE(24) parameter
 SQLSTART EXEC SYVM-78
 AMODE(31) parameter
 SQLSTART EXEC SYVM-78
 AMXT/MXT
 CICS PERF-80
 AMXTASK
 increasing DIAG-229
 analyzing
 SQL statements PERF-141
 analyzing the AXE error log DIAG-305
 anatomy of a keyword string DIAG-81
 anatomy of a keyword string
 developing the first two DIAG-82
 AND
 in a search condition SQLREF-89
 truth table SQLREF-89
 AND operator APP-41
 ANSI APP-133, APP-168
 answers to the exercises ISQL-139
 ANY APP-78
 ANY
 in a quantified predicate SQLREF-80
 in USING clause
 of DESCRIBE statement
 SQLREF-248
 of Extended DESCRIBE statement
 SQLREF-252
 API (see Application Programming Interface) DBSU-114, DBSU-115
 APOST preprocessor parameter APP-119, APP-161
 apostrophe
 parameter value DBSU-136
 APPC-TO-XPCC Exchange Transaction (AXE)
 overview DIAG-11
 protected conversation DIAG-12
 APPC/VM
 synchronous DIAG-228
 APPCVM OPER-17
 APPL (batch application)
 definition OPER-66
 application
 CMS APP-15
 default CCSID in server and requester
 SQLREF-32
 process SQLREF-18
 requester SQLREF-22
 server SQLREF-22
 application considerations
 database DBA-165
 development
 database support DBA-165
 PRIVATE dbspace DBA-165
 PUBLIC dbspace DBA-166
 maintenance DBA-176
 application design
 changing to avoid DIAG-146
 changing to avoid
 catalog conflicts DIAG-182
 DBSPACE scans DIAG-201
 I/O's DIAG-158, DIAG-196,
 DIAG-225, DIAG-233
 key lock contention DIAG-146
 application development
 configuration SYVM-4
 application development (*continued*)
 support in DB2 Server for VSE
 DBA-206
 use of synonyms DBA-173
 application epilog
 batch applications APP-16
 CICS/VSE applications APP-17
 ICCF applications APP-16
 application function
 definition of DIAG-130
 performance problem index DIAG-133
 application program
 ad hoc query PERF-112
 backing out data DBA-131
 batch, multiple user mode SYVM-70
 building source code files DBA-164
 capability DBA-162
 checking code DBA-174
 code development DBA-164
 database consideration DBA-165
 DB2 Server for VSE & VM
 implementation DBA-149
 DBS utility considerations PERF-113
 deadlock PERF-101
 design
 implementation alternatives
 DBA-149
 implementation considerations
 DBA-169
 prototyping DBA-162
 development capability DBA-162
 development consideration DBA-172
 distributed database PERF-83
 embedding statements SQLREF-141
 example APP-21
 eye-catcher usage SYVM-88,
 SYVM-76
 function prototyping DBA-163
 ISQL considerations PERF-112
 maintenance consideration DBA-176
 multiple user mode SYVM-80,
 SYVM-70
 privilege DBA-96
 recovery from failure DBA-123
 report writing DBA-157
 response time PERF-4
 runner DBA-110
 running in single user mode
 SYVM-80, SYVM-72
 VSE/ICCF SYVM-71
 application program, FORCE command
 OPER-53
 Application Programming Interface (API)
 calling program to DBSU DBSU-114
 control parameters DBSU-115
 application requester OPER-8
 application requester
 CCSID conversion SYVM-319
 components DIAG-8
 configuring PERF-85
 default CCSID SYVM-326, SYVM-252,
 SYVM-255
 description DBA-13
 determining CCSID SYVM-322,
 SYVM-248
 DRDA PERF-81
 PROTOCOL parameter PERF-109
 application requester (*continued*)
 setting DBCS option SYVM-328,
 SYVM-329
 setting default CHARNAME
 SYVM-326, SYVM-252, SYVM-253
 setting default DBCS SYVM-255,
 SYVM-256
 application requester defaults
 choosing CCSID after migration
 SYVM-36, SYVM-45
 choosing CHARNAME after
 migration SYVM-36, SYVM-45
 application server OPER-2
 application server
 access protocols DBA-245, DBA-254
 CCSID conversion SYVM-319
 components DIAG-8, DIAG-10
 configuring PERF-85
 connecting implicitly DBA-97
 connecting to DBA-97, DBA-100
 controlling access to DBA-90
 default DBA-84, DBA-97, SYVM-23,
 SYVM-31
 default subtype
 uses SYVM-24, SYVM-31
 description DBA-13
 DRDA PERF-81
 name SYVM-23, SYVM-23
 PROTOCOL parameter PERF-108
 response time PERF-4
 setting DBCS option SYVM-328,
 SYVM-254
 setting default CCSID SYVM-323,
 SYVM-249
 setting default character subtype
 SYVM-327, SYVM-253
 setting default CHARNAME
 SYVM-323, SYVM-249
 switching DBA-99, DBA-105
 Application server
 identifying DBSU-21
 switching DBSU-21
 application server defaults
 choosing CCSID after migration
 SYVM-33, SYVM-40
 choosing CHARNAME after
 migration SYVM-33, SYVM-40
 APPLID
 See basic dbname SYVM-23
 applying the select list SQLREF-123
 archive PERF-179
 archive
 ARCHIVE operator command
 OPER-46, OPER-47
 automatic OPER-183
 checkpoint PERF-103
 database PERF-49, PERF-53, PERF-55,
 PERF-58
 database archive OPER-12
 LARCHIVE command OPER-50
 log PERF-105
 log archive OPER-12
 log archive to disk OPER-51
 log archive to tape OPER-50
 log cushion percent OPER-187
 log size OPER-113
 online database archive OPER-47

- archive (*continued*)
 - output file (ARIARCH) OPER-10
 - percent OPER-180
 - selective PERF-105
 - specifying restore at startup OPER-188
 - SQLEND UARCHIVE command OPER-48
 - summary OPER-14
 - taking an archive at shutdown OPER-12
 - user archive OPER-12, OPER-48
 - verifying the directory OPER-13
 - VSE/VSAM user archive OPER-49
- archiving
 - after ADD DBEXTENT SYVM-168, SYVM-139
 - after COLDLOG operation SYVM-171
 - after DELETE DBEXTENT SYVM-168, SYVM-139
 - ARCHIVE command SYVM-201, SYVM-152
 - ARCHPCT initialization parameter SYVM-70, SYVM-202, SYVM-64, SYVM-152
 - as overhead PERF-12
 - caution regarding SYVM-167
 - commands SYVM-201, SYVM-152
 - concurrently SYVM-71, SYVM-64
 - database SYVM-196, SYVM-201, SYVM-205, SYVM-146, SYVM-152, SYVM-153
 - DBSS DIAG-63
 - default FILEDEF SYVM-80
 - device address SYVM-93
 - disk SYVM-209
 - disk
 - before starting the application server SYVM-211
 - disadvantages SYVM-209
 - during an archive SYVM-210
 - maintaining SYVM-212
 - restoring SYVM-218
 - risks SYVM-209
 - with shared file system (SFS) SYVM-209
 - effects on nonrecoverable data SYVM-243, SYVM-180
 - facilities SYVM-196, SYVM-146
 - LARCHIVE command SYVM-206, SYVM-155
 - log DIAG-63
 - log archive
 - disk SYVM-209, SYVM-210
 - introduction SYVM-197, SYVM-147
 - process SYVM-206, SYVM-154
 - log continuity SYVM-228, SYVM-168
 - log size impact SYVM-17, SYVM-17
 - LOGMODE initialization parameter
 - description SYVM-69, SYVM-63
 - of unallocated pages SYVM-197, SYVM-147
 - procedures SYVM-201, SYVM-152
 - processing SYVM-196, SYVM-146
 - restart procedures SYVM-214, SYVM-157
- archiving (*continued*)
 - restore set and history area SYVM-237, SYVM-174
 - restoring the database SYVM-215, SYVM-158
 - shutdown SYVM-92
 - SQLEND ARCHIVE command SYVM-201, SYVM-152
 - SQLEND LARCHIVE command SYVM-206, SYVM-155
 - SQLEND UARCHIVE command SYVM-205, SYVM-153
 - tape damage SYVM-220
 - tape requirements SYVM-8, SYVM-10
 - tape support for SYVM-68, SYVM-69
 - user
 - example backup command SYVM-154
 - example RESTORE command SYVM-160
 - user archive DIAG-63, SYVM-205, SYVM-153
 - using database manager facilities SYVM-196, SYVM-146
 - using user facilities SYVM-196, SYVM-146
 - ARCHPCT
 - initialization option OPER-113
 - initialization parameter
 - archiving SYVM-202, SYVM-153
 - description SYVM-70, SYVM-64
 - log archiving SYVM-206, SYVM-155
 - initialization parameters OPER-180
 - log activity SYVM-70, SYVM-64
 - log size OPER-113
 - tuning parameter PERF-107
 - ARCHTAPE OPER-193
 - ARCHTAPE
 - initialization parameter OPER-193
 - initialization parameter
 - description SYVM-65
 - ARI0087D prompt OPER-163
 - ARI0126E message DIAG-237
 - ARI0126E message
 - See recovering from DBSS errors
 - ARI0503E message ISQL-9
 - ARI0504I message ISQL-9
 - ARI0505I message ISQL-9
 - ARI7040I message ISQL-86
 - ARI7043I message ISQL-86
 - ARI7044I message ISQL-11, ISQL-15, ISQL-101
 - ARI7061I message ISQL-36
 - ARI7601I message ISQL-8
 - ARI7960I message ISQL-19
 - ARIACC1 accounting file OPER-45
 - ARIACC2 accounting file OPER-46
 - ARIARCH file name for database archive tape SYVM-218
 - ARIARCH, database archive file output OPER-10
 - ARIBFPPB mapping macro SYVM-374, SYVM-294
 - ARIDBS APP-143
 - ARIDDFP APP-179, DBSU-112
 - ARIDSQLA APP-179, DBSU-112
- ARILARC file name for log archive tape SYVM-218
- ARILARC, log archive file output OPER-10
- ARIMEXBD utility SYVM-128
- ARIMLBK member SYVM-261
- ARINEWUS DBA-82
- ARIPADR4 APP-143, APP-179
- ARIPEIFA APP-143
- ARIPRDID
 - DB2 Server for VSE linkage module APP-179
- ARIPRPA preprocessor APP-155
- ARIPRPC preprocessor APP-155
- ARIPRPF preprocessor APP-155
- ARIPRPP preprocessor APP-155
- ARIPSTR APP-143
- ARIRCAN APP-16
- ARIRCAN MACRO SYVM-368
- ARIRRTED, DB2 Server for VSE linkage module APP-179
- ARIS080D procedure OPER-19
- ARIS250D procedure SYVM-136
- ARIS341D procedure SYVM-43
- ARIS6ASC
 - sample program APP-308
- ARIS6ASD
 - sample program APP-308
 - source code APP-308
- ARIS6CBC
 - sample program APP-352
 - source code APP-352
- ARIS6CBD
 - sample program APP-352
 - source code APP-352
- ARIS6CC
 - sample program APP-330
 - source code APP-330
- ARIS6CD
 - sample program APP-330
 - source code APP-330
- ARIS6FTC APP-370
- ARIS6FTC
 - sample program APP-370
 - source code APP-370
- ARIS6FTD APP-370
- ARIS6FTD
 - sample program APP-370
 - source code APP-370
- ARIS6PLC
 - sample program APP-382
 - source code APP-382
- ARIS6PLD
 - sample program APP-382
 - source code APP-382
- ARIS72DB PERF-20
- ARIS73HD job control member
 - used in ADD DBEXTENT operation SYVM-136
 - used in DELETE DBEXTENT operation SYVM-136
- ARIS73PL DBSU-106
- ARISADD member
 - used in ADD DBEXTENT operation SYVM-137
 - used in DELETE DBEXTENT operation SYVM-137

ARISAVES EXEC
 SQLDBA bootstrap SYVM-180
 syntax SYVM-469

ARISCCS macro SYVM-58

ARISCCSD phase file SYVM-378

ARISDBG MACRO V SYVM-292

ARISDBMA EXEC PERF-179, SYVM-398, SYVM-466

ARISDBU member SYVM-220

ARISDTM MACRO SYVM-353, SYVM-362

ARISDTM member SYVM-276, SYVM-284

ARISFDEF EXEC SYVM-291

ARISFPKY EXEC SYVM-36

ARISISBT MODULE DBA-250

ARISNLSC MACRO SYVM-174, SYVM-190, SYVM-335

ARISPDFC EXEC SYVM-279, SYVM-471

ARISPRC utility DBA-210

ARISQLDS PERF-20

ARISQLDS EXEC SYVM-127

ARISQLLD LOADLIB SYVM-6

ARISRMBT MODULE DBA-250, DBA-251

ARISRMKC TEXT Q DBA-251

ARISRST procedure SYVM-159

ARISSCRD phase file SYVM-378

ARISSEGC MACRO SYVM-186, SYVM-187

ARISSEGC MACRO
 SQLBOOTS EXEC SYVM-470

ARISMA APP-143

ARISSMF APP-143

ARISSTRD phase file SYVM-378

ARISYSDD APP-179, DBSU-112

arithmetic
 date SQLREF-76
 datetime SQLREF-75
 decimal SQLREF-74
 exception DBSU-143, DBSU-169
 exception
 formatting with an arithmetic error ISQL-53
 floating-point SQLREF-74
 integer SQLREF-73
 operators SQLREF-73
 time SQLREF-77
 timestamp SQLREF-78

arithmetic error
 outer select APP-279

arithmetic expression
 ISO-ANS SQL(89) equivalent term SQLREF-423

arithmetic operation
 binary DBA-180
 date/time arithmetic
 performing operations DBA-181
 rules DBA-181
 using labeled duration expressions in DBA-181
 decimal DBA-179
 floating point DBA-180

arithmetic operator
 in syntax diagrams APP-x, DBA-xiii, DBSU-xiii, DIAG-xi, ISQL-xii, OPER-ix, PERF-ix, SQLREF-2, SYVM-xii, SYVM-xi

ARITRAC file name for trace tape SYVM-218

ARITRAC, tracing file output OPER-10

ARIUEXI
 parameter list SYVM-341, SYVM-265

ARIUEXI parameter list
 associated areas SYVM-344, SYVM-268

ARIUSRDD SYVM-82

ARIUXDT
 IBM-supplied version SYVM-358, SYVM-281
 job control SYVM-284
 parameter list SYVM-354, SYVM-277

ARIUXIT module
 branching SYVM-340, SYVM-264
 example user version SYVM-350, SYVM-274
 IBM-supplied version SYVM-347, SYVM-271
 installing SYVM-350, SYVM-274
 job control for installing SYVM-275
 service considerations SYVM-352, SYVM-275

ARIUXTM
 IBM-supplied version SYVM-360, SYVM-283
 job control SYVM-284
 parameter list SYVM-354, SYVM-277

AS clause
 of CREATE VIEW statement SQLREF-233

ASC clause
 of ALTER TABLE statement SQLREF-161, SQLREF-163
 of CREATE INDEX statement SQLREF-200
 of CREATE TABLE statement SQLREF-225, SQLREF-227
 select-statement SQLREF-134

ASCII
 mixed data SQLREF-46

ASM preprocessor parameter APP-118

assembler
 acquiring the SQLDSECT area APP-308
 application program
 BEGIN DECLARE SECTION statement SQLREF-170
 host variable SQLREF-68, SQLREF-271
 INCLUDE SQLCA SQLREF-357, SQLREF-364
 INCLUDE SQLDA SQLREF-359
 INCLUDE statement SQLREF-298
 PREPARE statement SQLREF-314
 SQLCA SQLREF-353
 varying-length string variables SQLREF-44
 data types APP-317
 declaring host variables APP-312
 declaring the SQLCA APP-315

assembler (*continued*)
 declaring the SQLDA APP-316
 embedding SQL statements
 example APP-9, APP-314
 sample program APP-308
 stored procedures APP-324

Assembler
 release level SYVM-3, SYVM-6

assembler calling program
 example DBSU-127

assembler load program
 example DBSU-124

assignment
 datetime
 DATE SQLREF-57
 TIME SQLREF-57
 TIMESTAMP SQLREF-57
 numbers SQLREF-54, SQLREF-55
 operation rules SQLREF-53
 strings
 bit SQLREF-56
 mixed SQLREF-56
 SBCS SQLREF-56
 SQLCA SQLREF-56
 SQLWARN1 SQLREF-56
 truncation SQLREF-56

ASSOCIATE LOCATORS statement
 description SQLREF-167, SQLREF-169

asterisk
 in COUNT function SQLREF-93
 in subselect SQLREF-122

asynchronous
 communication PERF-112
 page fault processing PERF-197
 writes PERF-198

atomic integrity APP-287, SQLREF-11

atomic operation DBA-122, DBA-131

attribute
 CCSID SQLREF-31
 length
 column SQLREF-44
 host variable SQLREF-79

AU trace OPER-192

auditing
 fair share PERF-93

auditing security
 loading information into a table DBA-114
 printing information DBA-118
 through the catalog tables DBA-111
 tracing DBA-111, OPER-164, SYVM-66

augmented OS QSAM support SYVM-74

AUTHOR column SQLREF-369

AUTHOR column
 of SYSUSERAUTH and SYSUSERLIST SQLREF-406

authority
 administration SQLREF-33
 changing DBA-191
 connect SQLREF-32
 CREATE TABLE DBA-90
 DBA SQLREF-33
 DBA (database administrator) ISQL-4
 GRANT statement SQLREF-291
 granting APP-268, DBA-92
 overview APP-270

authority (*continued*)
 resource ISQL-75, SQLREF-32
 revoking DBA-94
 revoking from others APP-270
 type
 CONNECT DBA-90
 DBA DBA-41, DBA-89, DBA-92,
 DBA-166
 RESOURCE DBA-41, DBA-90,
 DBA-166
 SCHEDULE DBA-90
 authorization
 change DBA-191
 check DBA-112
 checking DIAG-41
 description SQLREF-32
 retrieving catalog information about
 DBA-55
 authorization id
 description SQLREF-41
 authorization ID
 ALLUSERS DBA-103
 CHECKPT OPER-94, OPER-106,
 OPER-109
 authorization tracing OPER-164,
 OPER-192
 authorization_name
 description SQLREF-38
 in CONNECT statement SQLREF-186,
 SQLREF-192
 in GRANT statement SQLREF-289,
 SQLREF-291, SQLREF-292,
 SQLREF-294, SQLREF-295
 in REVOKE statement SQLREF-328,
 SQLREF-329, SQLREF-331
 length limitation SQLREF-349
 authorization-ID
 naming conventions APP-25
 authorization, checking DBSU-20,
 DBSU-21
 AUTO PROTOCOL option PERF-109
 AUTOCOMMIT DBA-131
 AUTOCOMMIT
 AUTOCOMMIT OFF DIAG-149,
 ISQL-29, ISQL-129
 AUTOCOMMIT OFF
 implications on catalog locking
 DIAG-182
 possible link wait problems
 DIAG-149
 possible lock wait problems
 DIAG-205
 use in routines DIAG-151,
 DIAG-178
 AUTOCOMMIT ON DIAG-151,
 ISQL-29, ISQL-129
 AUTOCOMMIT ON
 use to avoid lock waits DIAG-178
 use to reduce link waits DIAG-151
 CANCEL command ISQL-15,
 ISQL-29, ISQL-30
 command PERF-112
 DATALOAD COMMITCOUNT
 processing DBSU-163
 ISQL PERF-112
 LIST command ISQL-120
 SET command ISQL-59, ISQL-129

 automatic
 locking override DBSU-227
 revocation of privileges APP-271
 automatic archive OPER-183
 automatic restart resynchronization
 SYVM-109, SYVM-114, SYVM-93,
 SYVM-98
 automatic rollback
 data definition statements APP-260
 deadlocks APP-258
 automatic statistics collection PERF-113
 automatic statistics collection
 suppressing PERF-113
 automatically committing data ISQL-30,
 ISQL-129
 auxiliary storage
 CICS temporary PERF-81
 expanded storage PERF-43
 system paging DASD PERF-43
 availability PERF-1, PERF-5
 average row length PERF-38
 AVG function SQLREF-91
 AVG function
 precision SQLREF-92
 scale SQLREF-92
 AVGCOLLEN DBA-226
 AVGCOLLEN column SQLREF-369
 AVGCOLLEN column
 of SYSCOLUMNS SQLREF-382
 AVGWOWLEN DBA-225, PERF-38
 AVGWOWLEN column SQLREF-369
 AVGWOWLEN column
 of SYSCATALOG SQLREF-376
 AVS session limit
 exceeded DIAG-226
 AVS session limit considerations
 SYVM-270
 AXE error log
 analyzing DIAG-305

B
 back-up
 file PERF-50
 virtual disk PERF-52
 VSAM PERF-76
 back-up copy of a database DBA-135
 backing out
 changes APP-19
 backing out data during an ISQL session
 DBA-130
 backout
 definition APP-258
 nonrecoverable data SYVM-242,
 SYVM-179
 BACKOUT ISQL-98
 backslash
 hex value APP-331
 BACKWARD ISQL-22, ISQL-99,
 ISQL-157
 bad data distribution DIAG-151
 bad records skipping DBSU-45
 balancing
 DASD PERF-75
 BALR instruction SYVM-83
 base table SQLREF-11
 based structures APP-218

 basic DBCS support DBSU-230
 basic DBNAME SYVM-23
 basic form
 description APP-4
 basic index structure DIAG-50
 basic predicate SQLREF-79
 basic predicate
 description SQLREF-79
 ISO-ANS SQL(89) equivalent term
 SQLREF-423
 batch
 possible link wait problems DIAG-149
 possible lock wait problems
 DIAG-205
 batch application programs SYVM-70
 batch applications, modules required
 APP-179
 batch job DBA-149
 batch partition DBA-149
 batch program termination APP-16
 batch user, VSE PERF-89
 batch, application programs
 remote CICS/VSE transactions
 APP-154
 batch/interactive
 application consideration DBA-169
 application processing DBA-203,
 SYVM-1
 application security DBA-169
 capability DBA-149
 error handling DBA-170
 recovery DBA-169
 batch/interactive configuration SYVM-1
 BCREATOR column SQLREF-369
 BCREATOR column
 of SYSUSAGE SQLREF-405
 before starting ISQL ISQL-5
 BEGIN DECLARE SECTION APP-8
 BEGIN DECLARE SECTION statement
 SQLREF-170, SQLREF-171
 BEGINLUW counter OPER-58, PERF-23
 beginning a DB2 Server for VSE & VM
 session ISQL-5
 beginning a DB2/VM session ISQL-4
 beginning online support OPER-18
 BETWEEN predicate
 description SQLREF-81
 NOT keyword SQLREF-81
 BETWEEN, possible path selection
 problems DIAG-222
 bias of dispatcher, adjusting OPER-181
 bias of the dispatcher, adjusting
 SYVM-66, SYVM-60
 binary arithmetic operation DBA-180
 binary-output data DBSU-173
 BIND
 preprocessor parameter APP-119
 BIND preprocessor parameter APP-162
 BINDERROR column SQLREF-369
 binding statements SQLREF-9
 Binding to Create Package APP-148
 bit data
 CREATE TABLE statement
 SQLREF-224
 description SQLREF-44
 SQLDA SQLREF-361

- BIT data
 - choosing subtype DBA-34
 - blank
 - DBCS SQLREF-55
 - in column with a field procedure SYVM-371, SYVM-292
 - SBCS SQLREF-55
 - blanks
 - within identifiers DBSU-111
 - BLANKS
 - SET command ISQL-59
 - blanks, initialization options OPER-4
 - BLKSIZE option SYVM-77
 - BLKSIZE option
 - FILEDEF commands OPER-10
 - BLock
 - preprocessor parameter APP-120
 - BLOCK
 - initialization parameter PERF-110
 - block dump, specifying OPER-181
 - BLOCK option
 - of CREATE PACKAGE statement SQLREF-204
 - block size, FILEDEF commands OPER-10
 - blocking APP-139, APP-174, PERF-193, PERF-198
 - blocking
 - backouts initiated by application programs DBA-132
 - CLOSE statement SQLREF-176
 - cursor SQLREF-323
 - DELETE statement SQLREF-247
 - description SQLREF-247
 - disadvantages PERF-111
 - DRDA protocol PERF-110
 - fetch and insert PERF-110
 - ISQL PERF-111
 - long string restriction SQLREF-44
 - maximum row length PERF-110
 - OPEN statement SQLREF-308
 - preprocessor BLOCK option DBA-129
 - remote unit of work APP-121, APP-141
 - single user mode (SUM) PERF-111
 - specifying SYVM-77
 - suppressed PERF-111
 - blocking suppression DIAG-154
 - blocks
 - number of lock requests OPER-185
 - pages APP-256
 - BNAME column SQLREF-369
 - BNAME column
 - of SYSUSAGE SQLREF-405
 - bootstrap module DBA-251
 - bootstrap module, contents PERF-182, SYVM-188
 - bootstrap package
 - contents PERF-182, SYVM-188
 - copied to A-disk PERF-183, SYVM-189
 - creating PERF-182, SYVM-188
 - definition SYVM-174
 - BOTH
 - in USING clause
 - of DESCRIBE statement SQLREF-248
 - BOTH (*continued*)
 - in USING clause (*continued*)
 - of Extended DESCRIBE statement SQLREF-252
 - bottom title for printed report ISQL-50, ISQL-109
 - BTITLE
 - FORMAT command ISQL-51, ISQL-109
 - BTYPE column SQLREF-369
 - BTYPE column
 - of SYSUSAGE SQLREF-405
 - buffer
 - data pages OPER-186
 - data pages in storage SYVM-63, SYVM-57
 - number of directory buffers OPER-184
 - SHOW BUFFERS command OPER-70
 - SHOW BUFFERS example OPER-71
 - buffer hit ratio
 - definition of DIAG-131
 - large buffers DIAG-155
 - possible CPU usage problem
 - DIAG-212
 - possible paging problem DIAG-213
 - small buffers DIAG-157
 - too many agents DIAG-230
 - buffer pool PERF-197, SYVM-8
 - buffer pool
 - checkpoint PERF-103
 - contention DIAG-230
 - data page PERF-85
 - decreasing DIAG-156
 - flooding DIAG-157, DIAG-224
 - increasing DIAG-158, DIAG-185, DIAG-192
 - management DIAG-50
 - NCUSERS PERF-87, PERF-89
 - size PERF-87
 - thrashing DIAG-131, DIAG-157, DIAG-230
 - too big DIAG-155
 - too small DIAG-157
 - BUFND startup parameter PERF-108
 - build the database manager PERF-179
 - building
 - control file DBSU-13
 - building an input control card file DBSU-9
 - building source code files DBA-164
 - built-in function SQLREF-91
 - bypassing UNDO WORK failure
 - See recovering from DBSS errors
- C**
- C
- application program
 - BEGIN DECLARE SECTION statement SQLREF-170
 - host structure SQLREF-69
 - host variable SQLREF-68, SQLREF-271
 - INCLUDE SQLCA SQLREF-357
 - INCLUDE SQLDA SQLREF-364
 - INCLUDE statement SQLREF-298
 - PREPARE statement SQLREF-314
 - C (*continued*)
 - application program (*continued*)
 - SQLCA SQLREF-353
 - SQLDA SQLREF-359
 - varying-length string variables SQLREF-44
 - release level SYVM-3
 - C programming language
 - C APP-346
 - C compiler preprocessor APP-332
 - case sensitivity APP-331
 - character constants in SQL statements APP-331
 - considerations APP-330
 - data conversion considerations APP-340
 - data types APP-346
 - date calculations APP-340
 - DBCS data APP-341
 - declaring host variables APP-332
 - declaring SQLCA APP-344
 - declaring SQLDA APP-345
 - delimiting SQL statements APP-331
 - dynamic allocation of SQLDA APP-345
 - embedding SQL statements
 - example APP-9
 - INCLUDE statement APP-331
 - invoking the Database Services Utility DBSU-114
 - NUL-terminated strings and truncation APP-340
 - placement of SQL statements APP-330
 - preprocessor generated statements APP-341
 - preprocessor parameter APP-118
 - reentrant programs APP-348
 - stored procedures APP-348
 - trigraphs APP-341
 - cache (see data caching) DIAG-167
 - caching
 - minidisk PERF-78
 - package PERF-88
 - package
 - NCUSERS PERF-89
 - calculated
 - column heading ISQL-43
 - calculations
 - resource utilization SYVM-425, SYVM-339
 - storage space SYVM-427, SYVM-341
 - CALL assembler macro DBSU-113
 - call processing
 - access generation DIAG-37
 - optimization DIAG-37
 - parsing DIAG-37
 - statement generation DIAG-37
 - CALL statement
 - description SQLREF-172
 - call tracing OPER-163, OPER-191
 - CALL/RETURN protocols for application programs in single user mode SYVM-86, SYVM-74
 - CANCEL DBA-129, DBA-131
 - CANCEL
 - ISQL PERF-112

- CANCEL (*continued*)
 - synchronous communication PERF-112
- CANCEL command
 - command in progress ISQL-14
 - description ISQL-29
 - locked data ISQL-86
 - reference ISQL-100
- cancel exit SYVM-365, SYVM-287
- cancelling a command in progress ISQL-100
- capacities of a starter database SYVM-10
- capacity planning SYVM-13, SYVM-13
- capacity planning
 - planning SYVM-31, SYVM-39
- cascade
 - delete rule SQLREF-13
- DELETE statement SQLREF-245
- ON DELETE clause
 - of ALTER TABLE statement SQLREF-162
 - of CREATE TABLE statement SQLREF-226
- CASCADE
 - DELETE considerations DBA-7
- cascading REVOKE DBA-96
- cascading REVOKE
 - locking done DIAG-181
- CASE keyword
 - LIST command ISQL-120
 - SET command ISQL-129
- case sensitivity
 - C APP-331
- catalog
 - description SQLREF-18
 - procedure
 - virtual disk PERF-51
 - row length SYVM-434, SYVM-345
 - table PERF-38
 - used in database design DBA-17, DBA-53
- catalog indexing, possible lock wait problems DIAG-163
- catalog locking
 - because of catalog queries DIAG-182
 - because of naming conventions DIAG-162
 - because of preprocessing DIAG-215
 - exclusive locking in tables DIAG-179
 - hot spot problems DIAG-179
 - key conflicts DIAG-162
- catalog statistics
 - inaccurate values DIAG-187
 - misleading values DIAG-151
 - possible accuracy problems DIAG-187
 - updating DIAG-189
- catalog table
 - authorities and privileges DBA-89, DBA-91
 - automatic statistics collection PERF-113
 - average row lengths SYVM-434, SYVM-345
 - column information PERF-39
 - dbspace information PERF-39
 - description PERF-8
 - index information PERF-40
- catalog table (*continued*)
 - information about privileges DBA-55
 - isolation level setting ISQL-88
 - locking PERF-98, PERF-113
 - modified by CHARNAME SYVM-58, SYVM-52
 - placement PERF-77
 - reorganizing the indexes on DBA-77
 - securing DBA-109
 - statement PERF-137
 - statistics PERF-137
 - statistics
 - influencing data access PERF-139
 - updating PERF-139
 - support DBA-176
 - SYSCATALOG DBA-53
 - SYSCHARSETS ISQL-129
 - SYSTEM.SYSCATALOG PERF-38, PERF-62
 - SYSTEM.SYSCOLUMNS PERF-39
 - SYSTEM.SYSDBSPACES PERF-39, PERF-61, PERF-62
 - SYSTEM.SYSINDEXES PERF-40
 - table information PERF-38
 - UPDATE STATISTICS PERF-137
 - used in database design DBA-53, DBA-163
 - using ISQL-75
 - view DBA-55
- catalog table rows SYVM-436, SYVM-348
- catalog tables APP-273, SQLREF-369
- catalog tables
 - DB2 Server for VSE & VM database manager SQLREF-369
 - description SQLREF-18
 - generation OPER-188
 - index reorganization OPER-188
 - migration OPER-188
 - owner of (SYSTEM) SQLREF-369
 - roadmap SQLREF-370
 - SYSACCESS SQLREF-373, SQLREF-375
 - SYSCATALOG SQLREF-375, SQLREF-378
 - SYSCCSIDS SQLREF-378
 - SYSCHARSETS SQLREF-378, SQLREF-379
 - SYSOLAUTH SQLREF-379, SQLREF-380
 - SYSOLSTATS SQLREF-380, SQLREF-381
 - SYSCOLUMNS SQLREF-381, SQLREF-384
 - SYSDBSPACES SQLREF-384, SQLREF-385
 - SYSDROP SQLREF-385, SQLREF-386
 - SYSFIELDS SQLREF-386, SQLREF-387
 - SYSFPARMS SQLREF-387, SQLREF-388
 - SYSINDEXES SQLREF-388, SQLREF-390
 - SYSKEYCOLS SQLREF-390, SQLREF-391
 - SYSKEYS SQLREF-391, SQLREF-392
 - SYSLANGUAGE SQLREF-392, SQLREF-393
- catalog tables (*continued*)
 - SYSOPTIONS SQLREF-393, SQLREF-395
 - SYSPARMS SQLREF-395
 - SYSPROGAUTH SQLREF-396, SQLREF-397
 - SYSPSERVERS SQLREF-397
 - SYSROUTINES SQLREF-398
 - SYSSTRINGS SQLREF-400, SQLREF-402
 - SYSSYNONYMS SQLREF-402
 - SYSTABAUTH SQLREF-403, SQLREF-404
 - SYSUSAGE SQLREF-405
 - SYSUSERAUTH and SYSUSERLIST SQLREF-406
 - SYSUSERLIST view SQLREF-406
 - SYSVIEWS SQLREF-406, SQLREF-409
- cataloging
 - database SYVM-218
- cataloging a source member OPER-6
- CBND
 - description DIAG-8
- CBND transaction APP-186
- CCSID
 - See also* coded character set identifier (CCSID)
 - CHARNAME PERF-132
 - column PERF-39
 - conversion
 - PROTOCOL PERF-109
 - DRDA handshaking PERF-109
 - impact on sargability PERF-131
- CCSID (coded character set identifier)
 - application programming for distributed data DBA-14
 - moving data between application servers DBA-71
 - performance overhead DBA-14
 - specifying for a column DBA-30, DBA-35
- CCSID column SQLREF-369
- CCSID column
 - of SYSCCSIDS SQLREF-378
 - of SYSCOLUMNS SQLREF-383
 - of SYSKEYCOLS SQLREF-391
- CCSID conversion tracing OPER-193
- CCSID keyword
 - of CREATE TABLE statement SQLREF-224
- CCSID-related
 - reloading package SYVM-226
- CCSIDGRAPHIC option
 - of CREATE PACKAGE statement SQLREF-203
- CCSIDGraphic preprocessor parameter APP-121
- CCSIDMIXED option
 - of CREATE PACKAGE statement SQLREF-202
- CCSIDMixed preprocessor parameter APP-121, APP-162
- CCSIDSBCS option
 - of CREATE PACKAGE statement SQLREF-202
- CCSIDSbcs preprocessor parameter APP-121, APP-162

CCW
 fast translation PERF-79

CDLOAD instruction DBSU-112

CDRA
 See character data representation architecture (CDRA)

CEMT transaction SYVM-132, SYVM-116

CESN transaction APP-153

CHANGE command
 current statement ISQL-34, ISQL-35, ISQL-63
 reference ISQL-102
 stored statement ISQL-64

change settings, initialization parameters OPER-63

changing
 current SQL statement ISQL-34, ISQL-102
 data relationships DBA-190
 data type of a column APP-261
 decimal places displayed for a numeric column ISQL-110
 displayed
 column heading ISQL-43, ISQL-110
 length attribute of a column ISQL-45
 width of a column ISQL-110
 number of decimal places displayed ISQL-44
 referential integrity relationships DBA-190
 separation displayed between columns ISQL-40, ISQL-56, ISQL-114
 stored SQL statement ISQL-64
 table design DBA-64, DBA-65
 the log SYVM-230, SYVM-231
 unique constraints DBA-190
 user passwords DBA-109
 users of data DBA-191

channel PERF-75

channels
 adding more DIAG-185
 balancing usage DIAG-187

char SQLREF-7

CHAR
 choosing rather than VARCHAR DBA-34
 data type SQLREF-44, SQLREF-223
 function
 EUR SQLREF-96
 ISO SQLREF-96
 JIS SQLREF-96
 LOCAL SQLREF-96
 USA SQLREF-96

CHAR data type DBSU-148

CHAR data type
 assembler APP-317
 COBOL APP-364
 Fortran APP-378
 PL/I APP-391

character SQLREF-35

character
 data APP-57
 string
 constant APP-57

character (*continued*)
 subtype
 default SQLREF-45

CHARACTER
 data type SQLREF-159

character constant
 SQL statements
 C APP-331

character conversion
 character set SQLREF-30
 code page SQLREF-30
 code point SQLREF-30
 coded character set SQLREF-30
 description SQLREF-133
 DRDA SQLREF-29
 encoding scheme SQLREF-30
 rules for comparison SQLREF-58
 rules for operations combining strings SQLREF-130
 substitution character SQLREF-30

character data SYVM-319, SYVM-245

character data
 choosing between VARCHAR and CHAR DBA-34

character data representation architecture (CDRA) SQLREF-31

character set SQLREF-30

character set
 alternative SYVM-308, SYVM-234
 classification and translation SYVM-458, SYVM-370
 classification table SYVM-454, SYVM-366
 defining your own SYVM-451, SYVM-363
 ENGLISH SYVM-310, SYVM-236
 example SYVM-308, SYVM-453, SYVM-234, SYVM-365
 FRENCH SYVM-311, SYVM-237
 GERMAN SYVM-311, SYVM-237
 ITALIAN SYVM-313, SYVM-239
 PORTUGUESE SYVM-452, SYVM-364
 selection SYVM-57, SYVM-51
 SPANISH SYVM-315, SYVM-241
 specifying OPER-180
 starting application server SYVM-316, SYVM-242

character sets
 JAPANESE (Katakana) SYVM-314, SYVM-240

character string
 assignment SQLREF-55
 bit data SQLREF-44
 comparison SQLREF-58
 constant SQLREF-60
 constants SYVM-316, SYVM-318, SYVM-243, SYVM-244
 description SQLREF-44
 empty SQLREF-44
 fixed-length SQLREF-44
 host variable SQLREF-44
 MBCS SQLREF-45
 mixed data SQLREF-45
 planes SQLREF-46
 SBCS data SQLREF-44
 varying-length SQLREF-44

character subtype DBSU-65, DBSU-75

character subtype
 application server default SYVM-26, SYVM-33
 CCSID APP-46
 changing default SYVM-299, SYVM-227
 changing existing column attributes SYVM-325, SYVM-251
 CHARSUB SYVM-24, SYVM-26, SYVM-31, SYVM-33
 choosing BIT DBA-34
 choosing default SYVM-24, SYVM-31
 choosing MIXED DBA-34
 choosing SBCS DBA-34
 constant APP-57
 default values APP-46
 description SQLREF-44
 overriding defaults APP-47
 setting application server default SYVM-327, SYVM-253
 specifying for a column DBA-30
 SQLDA SQLREF-361

character_constant
 in LIKE predicate SQLREF-86

CHARCLASS column SQLREF-369

CHARCLASS column
 of SYSCHARSETS SQLREF-379

CHARNAME
 application requester default SYVM-305, SYVM-231
 application server default SYVM-305, SYVM-231
 catalog tables modified SYVM-58, SYVM-52
 CCSID PERF-132
 change to catalog tables
 SQLDBA.ROUTINE SYVM-58, SYVM-51
 SQLDBA.STORED QUERIES SYVM-58, SYVM-51
 SQLDBA.SYSLANGUAGE SYVM-58, SYVM-51
 SQLDBA.SYSTEXT2 SYVM-58, SYVM-51
 SQLDBA.SYSUSERLIST SYVM-58, SYVM-51
 changing SYVM-58, SYVM-52
 changing default SYVM-299
 changing default
 considerations SYVM-306, SYVM-232
 during database generation SYVM-226
 changing pre-Euro SYVM-307, SYVM-233
 choosing application requester default SYVM-26, SYVM-34
 choosing application requester default after migration SYVM-36, SYVM-45
 choosing application server default SYVM-23, SYVM-31
 choosing application server default after migration SYVM-33, SYVM-40
 default CCSIDs SYVM-57, SYVM-51
 differences between international and English code pages SYVM-324, SYVM-250

- CHARNAME (*continued*)
 - initialization parameter SYVM-57, SYVM-315, SYVM-51, SYVM-241
 - INTERNATIONAL SYVM-323, SYVM-249
 - not set correctly DIAG-159
 - setting for application requester
 - all application requesters SYVM-326, SYVM-252
 - an application requester SYVM-326, SYVM-253
 - hierarchy used SYVM-325, SYVM-251
 - using DSQU SYVM-253
 - using SQLGLOB EXEC SYVM-326
 - using SQLGLOB VSAM file SYVM-252
 - using SQLINIT EXEC SYVM-326
 - setting for application server SYVM-323, SYVM-249
- CHARNAME column SQLREF-369
- CHARNAME column of SYSCCSIDS SQLREF-378
- CHARNAME initialization parameters OPER-180
- CHARNAME parameter of exec DBA-246, DBA-255
- CHARSUB option
 - of CREATE PACKAGE statement SQLREF-203
- CHARSUB preprocessor parameter APP-121, APP-162
- CHARTRANS column SQLREF-369
- CHARTRANS column of SYSCHARSETS SQLREF-379
- CHECK
 - bind parameter APP-149
- CHECK option
 - of CREATE PACKAGE statement SQLREF-204
- CHECK option of preprocessor DBA-174
- CHECK preprocessor parameter APP-163
- checking
 - application code DBA-174
 - SQLCA APP-200
- checklist
 - enable PERF-176
 - pre-enable PERF-176
- checklist for database generation SYVM-27, SYVM-35
- checkpoint
 - "snapshot" of database DIAG-58
 - accounting SYVM-253, SYVM-197
 - agent OPER-66, PERF-88
 - and high logging volume on load DIAG-206
 - as overhead PERF-12
 - before an online log archive SYVM-207, SYVM-156
 - being forced DIAG-159
 - caused by nonrecoverable storage pools SYVM-241, SYVM-178
 - caused by SOSLEVEL DIAG-178
- CHKINTVL initialization parameter SYVM-69, SYVM-63
- CHKINTVL too big DIAG-160
- CHKINTVL too small DIAG-160
- checkpoint (*continued*)
 - counter OPER-58
 - definition SYVM-69, SYVM-63
 - delayed by DBSS calls DIAG-207
 - forcing PERF-64, PERF-104
 - frequent DIAG-178
 - functional description DIAG-58
 - interval OPER-180, PERF-103
 - interval
 - choosing PERF-203
 - default value PERF-203
 - interval too big DIAG-160
 - interval too small DIAG-160
 - invalid index PERF-74
 - load measurement PERF-23
 - log archive OPER-68, OPER-69, SYVM-207, SYVM-156
 - logical unit of work OPER-68, OPER-69
 - managing PERF-202
 - need for in "soft" failure DIAG-58
 - occurrence PERF-103
 - overview PERF-102
 - performance implication PERF-103
 - process PERF-63
 - records on the log SYVM-195, SYVM-145
 - save interval PERF-203
 - shadow page PERF-63, PERF-103
 - short on storage PERF-59
 - storage queue PERF-46
- checkpoint interval
 - understanding PERF-166
- CHECKPT authorization ID OPER-94, OPER-106, OPER-109
- CHKINTVL OPER-180
- CHKINTVL
 - checkpoint PERF-103
 - choosing a value PERF-103
 - decreasing DIAG-160
 - increasing DIAG-161, DIAG-207, DIAG-208
 - initialization parameter SYVM-69, SYVM-63
 - too big DIAG-160
 - too small DIAG-160
- CHKPOINT counter OPER-58, PERF-23
- choose
 - in syntax diagrams APP-x, DBA-xiv, DBSU-xiv, DIAG-xii, ISQL-xii, OPER-ix, PERF-ix, SQLREF-3, SYVM-xii, SYVM-xii
- choosing
 - application requester default CHARNAME SYVM-26, SYVM-34
 - application server default CHARNAME SYVM-23, SYVM-31
 - application server default coded character set identifier (CCSID) SYVM-23, SYVM-31
 - default character subtype SYVM-24, SYVM-26, SYVM-31, SYVM-33
 - default coded character set identifier (CCSID) SYVM-26, SYVM-34
- CICS OPER-18
- CICS
 - See also* CICS/VSE
 - CICS/VS monitoring facility OPER-57
 - CICS/VSE OPER-v
 - DBDCCICS OPER-19
 - GRANT statement SQLREF-292
 - in-doubt logical units of work OPER-152
 - remote DRDA application server DIAG-36
 - restart resynchronization facility OPER-152
 - terminal OPER-18, OPER-44
 - transactions that access the application server OPER-20
- CICS (Customer Information Control System)
 - CISQ transaction DBA-128
 - CONNECT considerations DBA-103
 - CSSN transaction DBA-103
 - DFHPCT macroinstruction DBA-128
 - DFHSIT macroinstruction DBA-128
 - dynamic transaction backout program DBA-122, DBA-172
 - GCBEabend code DBA-128
 - implicit CONNECT support DBA-103
 - interactive application support DBA-206
 - ISQL support DBA-207
 - multiple application servers DBA-127
 - option DBA-205
 - pseudoconversational transaction DBA-172
 - recovery processing DBA-172
 - sign on DBA-171
 - synchronization points DBA-127
 - SYNCPPOINT DBA-172
 - transaction processing DBA-150, DBA-204
 - transaction program DBA-150
 - user identification and verification DBA-171
- CICS macroinstruction
 - DFHPCT DBA-128
 - DFHSIT DBA-128
- CICS/VSE
 - CONNECT considerations APP-13, APP-153
 - DB2 Server for VSE linkage module APP-179
 - logical unit of work considerations APP-18
 - product options SYVM-3
 - program termination APP-17
 - running in batch APP-154
 - table entries required APP-18
 - use of WHENEVER APP-209
- CICS/VSE default rules
 - user IDs APP-153
- CICSPARS PERF-8, PERF-17
- CICSUSER default user ID APP-153, DBA-103
- CICSUSER option, CIRA transaction OPER-34
- CICSUSER option, CIRB transaction OPER-19
- CIRA syntax SYVM-106, SYVM-90

CIRA transaction SYVM-110, SYVM-112, SYVM-94, SYVM-96

CIRB
 decreasing NOLINKS DIAG-231
 increasing NOLINKS DIAG-150
 initiated CICS connections
 concurrency PERF-92
 too few agents DIAG-228
 transaction PERF-90

CIRB syntax SYVM-100, SYVM-83

CIRB transaction APP-153, SYVM-110, SYVM-112, SYVM-118, SYVM-120, SYVM-94, SYVM-96, SYVM-102, SYVM-104

CIRB transaction
 CICSUSER option OPER-18
 description OPER-18

CIRC syntax SYVM-115, SYVM-99

CIRC transaction OPER-36, SYVM-118, SYVM-120, SYVM-102, SYVM-104

CIRD transaction OPER-20, PERF-8, PERF-21, SYVM-119, SYVM-103

CIRD transaction
 example OPER-23, OPER-24, OPER-25, OPER-26, OPER-27, OPER-28

CIRR syntax SYVM-116, SYVM-100

CIRR transaction OPER-26, SYVM-102, SYVM-125, SYVM-86, SYVM-109

CIRT
 too few agents DIAG-228

CIRT syntax SYVM-128, SYVM-112

CIRT transaction OPER-29, PERF-90, SYVM-102, SYVM-125, SYVM-86, SYVM-109

CISQ
 transaction name PERF-80

CISQ transaction DBA-128, SYVM-72

CL_SCHED sample table DBSU-247, ISQL-155, SQLREF-411

CLABEL column SQLREF-369

CLABEL column
 LABEL ON statement SQLREF-305
 of SYSCOLUMNS SQLREF-383

CLASS keyword
 LIST command ISQL-120
 PRINT command ISQL-121
 SET command ISQL-129

classification table
 character sets SYVM-458, SYVM-370
 coded character set identifier (CCSID) SYVM-332, SYVM-259
 identifying SYVM-57, SYVM-51

classification, character SYVM-454, SYVM-366

clause
 order APP-73

clearing the log SYVM-230, SYVM-231, SYVM-171, SYVM-172

CLOSE
 format APP-37

CLOSE option of TRACE command OPER-165

CLOSE SCAN DIAG-72

CLOSE statement
 description SQLREF-176

CLOSE statement, Extended SQLREF-178

closed state of cursor APP-33, SQLREF-310

closing a trace file OPER-166

CLUSTER column SQLREF-369

CLUSTER column
 of SYSINDEXES SQLREF-388

cluster ratio
 catalog table PERF-41
 evaluating PERF-68

clustered
 catalog table PERF-41
 index PERF-66
 index
 access path PERF-118
 unclustered index PERF-67

CLUSTERED index
See clustering index

clustering
 creating DIAG-211
 index DIAG-52
 need for DIAG-210
 to avoid DBSPACE scans DIAG-201
 to avoid I/O's DIAG-158, DIAG-225

clustering index DBSU-65, PERF-67

clustering index
 catalog table PERF-41
 changing
 while reorganizing a dbspace PERF-71
 while reorganizing a table PERF-71
 without dropping indexes PERF-72

data PERF-66

description DBA-25, DBA-48

PCTFREE PERF-62

reorganize index PERF-74

unclustered PERF-68

view PERF-68

when to create DBA-52

CLUSTERRATIO column SQLREF-369

CLUSTERRATIO column
 of SYSINDEXES SQLREF-388, SQLREF-389

CLUSTERROW column SQLREF-369

CLUSTERROW column
 of SYSCATALOG SQLREF-376

CLUSTERTYPE
 clustering PERF-67

CLUSTERTYPE column SQLREF-369

CLUSTERTYPE column
 of SYSCATALOG SQLREF-376

CMS
 abnormal end routine SYVM-87
 applications APP-15
 commands
 use of ISQL-91
 file manipulation commands SYVM-290
 FILEDEF commands for DB2 Server for VM tracing OPER-166
 FILEDEF, ALT option SYVM-76
 files for initialization parameter SYVM-89
 files for initialization parameters SYVM-89
 files, initialization options OPER-5

CMS (*continued*)
 files, initialization parameters OPER-186
 HELP text files SYVM-335
 initialization parameter files SYVM-56
 OS QSAM SYVM-74
 restrictions SYVM-140
 subset mode ISQL-91
 subset mode
 entering ISQL-91
 leaving ISQL-91
 work units APP-284

CMS (Conversational Monitor System)
 subset mode DBA-152
 work unit DBA-122

CMS communications directory
 installation process SYVM-10
 reloading SYVM-10

CMS subset ISQL-91

CMS SUBSET
 LUW APP-286
 SQLRMEND EXEC APP-286

CMS work unit SYVM-366

CMS work unit
 accounting exit SYVM-342
 accounting exit
 DB2 Server for VM tables SYVM-261
 work unit ID SYVM-256, SYVM-200
 supported operating systems SYVM-1
 VM/ESA features supported SYVM-1

CMS work unit support DIAG-162

CNAME column SQLREF-369

CNAME column
 of SYSCOLSTATS SQLREF-380
 of SYSCOLUMNS SQLREF-381
 of SYSFIELDS SQLREF-386
 of SYSFPARMS SQLREF-387
 of SYSKEYCOLS SQLREF-390

CNVSZ parameter of VSAM DEFINE command SYVM-215, SYVM-216

COB2 preprocessor parameter APP-163, APP-358

COBOL
 31-bit addressing APP-112
 application program
 BEGIN DECLARE SECTION
 statement SQLREF-171
 host structure SQLREF-69
 host variable SQLREF-68, SQLREF-271
 INCLUDE SQLCA SQLREF-358
 INCLUDE statement SQLREF-298
 integers SQLREF-55
 PREPARE statement SQLREF-314
 SQLCA SQLREF-353
 varying-length string variables SQLREF-44

COB2 compiler option consideration APP-358

COBRC compiler option consideration APP-359

column 7 APP-360

continuation of SQL statements APP-352

COPYBOOKs APP-358

- COBOL *(continued)*
 - data conversion considerations APP-359
 - data types APP-364
 - DBCS data APP-360
 - declaring host variables APP-354
 - declaring SQLCA APP-361
 - delimiting SQL statements APP-353
 - DYNAM compiler option APP-367
 - dynamic statement restrictions APP-362
 - embedding SQL statements
 - example APP-9
 - module required APP-179
 - placement of SQL statements APP-352
 - preprocessor parameter APP-118
 - QUOTE compiler option consideration APP-357
 - release level SYVM-3, SYVM-6
 - sample program APP-352
 - stored procedures APP-367
 - using the COB2 parameter APP-358
 - using the COBRCL parameter APP-359
 - using the INCLUDE statement APP-359
- COBOL program example DBSU-124
- COBOL, invoking the Database Services Utility DBSU-114
- COBRCL preprocessor parameter APP-163, APP-359
- code development DBA-164
- code page SQLREF-30
- code point SQLREF-30, SYVM-319, SYVM-245
- CODE trace OPER-164
- coded character set identifier (CCSID)
 - application requester default SYVM-26, SYVM-325, SYVM-34, SYVM-251
 - application server default SYVM-23, SYVM-58, SYVM-323, SYVM-31, SYVM-51, SYVM-249
 - attribute SYVM-245
 - catalog tables modified SYVM-58, SYVM-52
 - changing CHARNAME
 - repreprocess SYVM-58, SYVM-52
 - changing defaults
 - summary SYVM-306, SYVM-232
 - CHARNAME change
 - SQLDBA.ROUTINE SYVM-58, SYVM-51
 - SQLDBA.STORED QUERIES SYVM-58, SYVM-51
 - SQLDBA.SYSLANGUAGE SYVM-58, SYVM-51
 - SQLDBA.SYSTEXT2 SYVM-58, SYVM-51
 - SQLDBA.SYSUSERLIST SYVM-58, SYVM-51
 - CHARNAME mapping SYVM-319, SYVM-245
 - choosing a national language SYVM-305, SYVM-231
 - choosing application requester default after migration SYVM-36, SYVM-45
- coded character set identifier (CCSID) *(continued)*
 - choosing application server default after migration SYVM-33, SYVM-40
 - constants SQLREF-61
 - conversion SYVM-319
 - conversion selection table SQLREF-32
 - DBCS conversion SYVM-363, SYVM-284
 - default SQLREF-32
 - default CCSIDs SYVM-57, SYVM-51
 - default override SQLREF-362
 - defining character sets SYVM-305, SYVM-231
 - description ISQL-77, SQLREF-31
 - determining for an application requester SYVM-322, SYVM-248
 - graphic constants SQLREF-62
 - identifying classification table SYVM-332, SYVM-259
 - identifying translation table SYVM-332, SYVM-259
 - loading information to CMS files SYVM-466, SYVM-378
 - maximum number of overrides SQLREF-350
 - MCCSIDGRAPHIC SYVM-34, SYVM-35, SYVM-323, SYVM-41, SYVM-42, SYVM-249
 - MCCSIDMIXED SYVM-34, SYVM-35, SYVM-323, SYVM-41, SYVM-42, SYVM-249
 - MCCSIDSBCS SYVM-34, SYVM-35, SYVM-323, SYVM-41, SYVM-42, SYVM-249
 - migration considerations SYVM-33, SYVM-323, SYVM-40, SYVM-249
 - mixed SYVM-321, SYVM-247
 - performance overhead SYVM-24, SYVM-305, SYVM-324, SYVM-32, SYVM-231, SYVM-249
 - SBCS SYVM-320, SYVM-246
 - setting for application server SYVM-323, SYVM-249
 - setting for application server
 - differences between international and English code pages SYVM-324, SYVM-250
 - string representation of datetime values SQLREF-49
 - SYSOPTIONS catalog table SQLREF-393
 - uses SYVM-24, SYVM-31
 - uses for application requester default SYVM-26, SYVM-34
- coding data by field procedures SYVM-369, SYVM-290
- coding your own exit
 - accounting SYVM-344, SYVM-268
 - requirements SYVM-356, SYVM-279
 - TRANSPROC SYVM-363, SYVM-284
- coexistence
 - considerations SYVM-39, SYVM-46
 - VSE and VM SYVM-40
- COLCOUNT
 - use in determining column selectivity DIAG-152
- COLCOUNT column SQLREF-369
- COLCOUNT column
 - of SYSCOLUMNS SQLREF-382
- cold start OPER-188
- cold start of database manager SYVM-219
- COLDLOG operation SYVM-215, SYVM-232, SYVM-170
- COLDLOG operation
 - archiving considerations SYVM-171
 - example job control SYVM-171
 - increasing log size SYVM-171
 - log reconfiguration and reformatting SYVM-231, SYVM-171
 - no recovery SYVM-215
 - reconfiguration SYVM-171
 - reformatting SYVM-171
 - restarting from a failure SYVM-221, SYVM-163
- coldstart SYVM-291
- COLINFO column SQLREF-369
- COLINFO column
 - of SYSCOLUMNS SQLREF-383
- collection DBA-193
- collection
 - national language support SYVM-271, SYVM-272
 - service machines SYVM-270
- collection_id
 - description SQLREF-38
- COLNAME column SQLREF-369
- COLNAME column
 - of SYSCOLAUTH SQLREF-379
- COLNAMES column SQLREF-369
- COLNAMES column
 - of SYSINDEXES SQLREF-388
- COLNO column SQLREF-369
- COLNO column
 - of SYSCOLUMNS SQLREF-381
 - of SYSFIELDS SQLREF-386
- COLNUMBERS column SQLREF-369
- COLNUMBERS column
 - of SYSINDEXES SQLREF-388
- colon
 - See also* host variable used in indicator variables APP-60
- COLTYPE column SQLREF-369
- COLTYPE column
 - of SYSCOLUMNS SQLREF-381
- column
 - > 254 PERF-111
 - adding DBA-189
 - adding to a table ISQL-79
 - catalog information PERF-39
 - changing name in a view DBA-44
 - correlation function APP-83
 - data storage DBA-225
 - data types for DBA-32
 - description ISQL-1
 - displayed
 - decimal place, changing ISQL-44, ISQL-110
 - heading, changing ISQL-43, ISQL-110
 - length attribute, changing ISQL-45
 - width, changing ISQL-110
 - dropping DBA-189

column (*continued*)
 excluding from a display ISQL-41, ISQL-110
 grouping SQLREF-125
 heading
 See also column, name
 calculated values ISQL-43
 in tables SQLREF-10
 including
 excluded columns ISQL-42, ISQL-112
 join considerations APP-67
 label DBSU-23
 leading zeros ISQL-110
 length PERF-39
 length attribute SQLREF-44
 long string SQLREF-44
 maximum number in a query DBA-271
 maximum number in a table SQLREF-350
 maximum number in a view SQLREF-350
 maximum number in an index key SQLREF-350
 more than 254 bytes DBA-52
 multicolumn key DBA-5
 name
 changing ISQL-43
 creating ISQL-77
 of a result column SQLREF-123
 qualifier SQLREF-64
 naming DBA-4
 naming convention APP-25, DBA-31
 null type PERF-39
 null value DBA-4
 overhead DBA-225
 primary key DBA-4
 retrieving catalog information DBA-54
 rules for UNION SQLREF-129
 selecting
 specific column ISQL-19
 selectivity, false sense of DIAG-152
 separator
 setting for a session ISQL-56, ISQL-133
 setting for current query result ISQL-40, ISQL-114
 sequencing, for storage efficiency DIAG-171
 short string SQLREF-44
 specifying
 CCSID DBA-30, DBA-35
 character subtype DBA-30
 data type DBA-30
 field procedure DBA-31
 name DBA-30
 type PERF-39
 UNIQUE attribute DBSU-65
 unnamed SQLREF-133
 valid data type DBA-4
 variable character
 setting width displayed for a session ISQL-133
 setting width displayed for current query result ISQL-114
 virtual APP-62

COLUMN
 command ISQL-25
 FORMAT command ISQL-43
 keyword in FORMAT command ISQL-45
 COLUMN clause
 of COMMENT ON statement SQLREF-179
 of LABEL ON statement SQLREF-304
 COLUMN command ISQL-103
 column function SQLREF-91
 column function
 See also function
 ISO-ANS SQL(89) equivalent term SQLREF-423
 column in a GROUP BY clause
 ISO-ANS SQL(89) equivalent term SQLREF-423
 column name
 ambiguous reference SQLREF-66
 undefined reference SQLREF-66
 column name qualification
 correlation name SQLREF-64
 synonym SQLREF-64
 table name SQLREF-64
 view name SQLREF-64
 COLUMN option of FORMAT command
 changing heading ISQL-52, ISQL-110
 changing width ISQL-46
 reference ISQL-110
 column_name
 description SQLREF-38, SQLREF-180
 in ALTER TABLE statement SQLREF-159, SQLREF-163
 in COMMENT ON PROCEDURE statement SQLREF-181
 in COMMENT ON statement SQLREF-179
 in CREATE INDEX statement SQLREF-199, SQLREF-200
 in CREATE TABLE statement SQLREF-221, SQLREF-227
 in CREATE VIEW statement SQLREF-232
 in FOR UPDATE clause SQLREF-134
 in GRANT statement SQLREF-294, SQLREF-295
 in GROUP BY clause SQLREF-125
 in INSERT statement SQLREF-299, SQLREF-300
 in LABEL ON statement SQLREF-304
 in LIKE predicate SQLREF-86
 in NULL predicate SQLREF-89
 in ORDER BY clause SQLREF-133
 in UPDATE statement SQLREF-340
 length limitation SQLREF-349
 COM trace OPER-192
 combining
 queries APP-89
 combining columns DIAG-154
 combining records to load multiple rows DBSU-41
 COMDIR
 definition SYVM-11
 installation process SYVM-10, SYVM-11
 namefind SYVM-11

COMDIR (*continued*)
 reloading SYVM-10, SYVM-11
 COMma preprocessor parameter APP-125
 command
 ARCHIVE SYVM-201, SYVM-152
 AUTOCOMMIT DBA-131
 CANCEL DBA-129, DBA-131
 CMS ISQL-91
 COMMIT WORK SYVM-251, SYVM-195
 correcting typing error
 description ISQL-14
 IGNORE command ISQL-35
 START command ISQL-31
 COUNTER SYVM-65, SYVM-58
 CP (control program)
 SPOOL ISQL-92
 TAG ISQL-92
 DBS SET LINEWIDTH DBA-150
 DISCONN SYVM-91, SYVM-141
 DISPLAY ISQL-72
 entering
 description ISQL-10
 while executing another command ISQL-12
 while processing routine ISQL-12
 while viewing query result ISQL-12
 erasing one previously stored ISQL-107
 FORCE DBA-135, SYVM-114, SYVM-98
 FORMAT DBA-156, SYVM-290
 INPUT DBA-46, DBA-60
 ISQL
 CANCEL ISQL-14
 CHANGE ISQL-34, ISQL-64
 description ISQL-2
 END ISQL-25
 ERASE ISQL-65
 HELP ISQL-16
 HOLD ISQL-36
 IGNORE ISQL-35
 LIST ISQL-59, ISQL-65
 RECALL ISQL-63
 RENAME ISQL-65
 RUN ISQL-71
 SET ISQL-29, ISQL-30, ISQL-59
 START ISQL-62
 STORE ISQL-61
 ISQL display
 BACKWARD ISQL-22, ISQL-99
 COLUMN ISQL-25, ISQL-103
 DISPLAY ISQL-105
 END ISQL-25, ISQL-106
 FORMAT ISQL-39, ISQL-55, ISQL-109
 FORWARD ISQL-20, ISQL-116
 LEFT ISQL-25, ISQL-119
 PRINT ISQL-25, ISQL-121
 RIGHT ISQL-23, ISQL-126
 TAB ISQL-25, ISQL-138
 LARCHIVE SYVM-206, SYVM-155
 length maximum in ISQL DBA-271
 listing a stored SQL statement ISQL-120

- command (*continued*)
 - maximum length ISQL-13
 - operator OPER-199
 - preventing immediate processing ISQL-118
 - PRINT DBA-156
 - processing
 - description DBSU-135
 - SQL DBSU-143
 - summary DBSU-144
 - protecting existing stored ISQL-61
 - recalling a stored SQL statement ISQL-124
 - renaming stored SQL statement ISQL-125
 - REPRO (VSAM) DBA-61
 - RESERVE SYVM-290
 - reusing ISQL-34, ISQL-35
 - ROLLBACK WORK SYVM-251, SYVM-195
 - SET ERRORMODE DBA-170
 - SHOW ACTIVE SYVM-114, SYVM-98
 - SHOW DBSPACE DBA-78
 - SHOW LOCK MATRIX SYVM-65, SYVM-59
 - SHOW LOG
 - scheduling archives SYVM-202, SYVM-153
 - scheduling log archives SYVM-208, SYVM-156
 - scheduling user archives SYVM-206, SYVM-154
 - SHOW USERS SYVM-93, SYVM-96, SYVM-79
 - specifications DBSU-135
 - SQL
 - ALTER TABLE ISQL-79
 - changing ISQL-34
 - COMMENT ISQL-76
 - COMMIT ISQL-29
 - CREATE INDEX ISQL-85
 - CREATE SYNONYM ISQL-84
 - CREATE TABLE ISQL-77, ISQL-78
 - DROP INDEX ISQL-85
 - DROP SYNONYM ISQL-85
 - DROP TABLE ISQL-78
 - GRANT ISQL-83
 - INSERT ISQL-78
 - placeholder ISQL-36
 - preventing immediate processing ISQL-36
 - previous ISQL-61, ISQL-63
 - recalling ISQL-63
 - reusing ISQL-31
 - ROLLBACK ISQL-29
 - SELECT ISQL-19
 - starting stored statement ISQL-62
 - storing ISQL-61
 - UPDATE STATISTICS ISQL-86
 - SQLEND SYVM-91, SYVM-78
 - SQLEND ARCHIVE SYVM-201, SYVM-152
 - SQLEND DVERIFY SYVM-91, SYVM-78
 - SQLEND LARCHIVE SYVM-206, SYVM-155
 - SQLEND QUICK SYVM-91, SYVM-78
- command (*continued*)
 - SQLEND UARCHIVE SYVM-205, SYVM-153
 - stacking ISQL-12
 - typing ISQL-117
 - command buffer
 - how used ISQL-31
 - command file
 - errors DBSU-224
 - command reference topics
 - blanks within identifiers DBSU-111
 - COMMENT reference DBSU-137
 - data object DBSU-110
 - Database Services Utility reserved words DBSU-111
 - DATALOAD TABLE reference DBSU-145
 - DATAUNLOAD reference DBSU-168
 - load-data commands DBSU-145
 - load-program command processing DBSU-207
 - loading data DBSU-145
 - loading programs DBSU-207
 - names and identifiers DBSU-110
 - naming data objects DBSU-110
 - object name DBSU-110
 - processing DBSU-135
 - program-load commands DBSU-207
 - qualifying object names DBSU-110
 - REBIND PACKAGE reference DBSU-213
 - RELOAD DBSPACE reference DBSU-191
 - RELOAD PACKAGE reference DBSU-208
 - RELOAD TABLE reference DBSU-196
 - REORGANIZE reference DBSU-138
 - reserved words DBSU-111
 - reserved words as identifiers DBSU-111
 - SCHEMA reference DBSU-140
 - SET AUTOCOMMIT reference DBSU-214
 - SET ERRORMODE reference DBSU-215
 - SET FORMAT reference DBSU-217
 - SET ISOLATION reference DBSU-218
 - SET LINECOUNT, SET LINEWIDTH reference DBSU-219
 - SET UPDATE STATISTICS reference DBSU-220
 - set-item commands DBSU-214
 - setting items DBSU-214
 - special character within identifier DBSU-111
 - SQL reserved words DBSU-111
 - UNLOAD DBSPACE reference DBSU-201
 - UNLOAD PACKAGE reference DBSU-211
 - UNLOAD TABLE reference DBSU-204
 - command-set sequence DBSU-52
 - command, operator
 - ALTACCT OPER-45
 - ARCHIVE OPER-46
 - COUNTER OPER-58
 - COUNTER POOL OPER-199
- command, operator (*continued*)
 - FORCE OPER-52, OPER-67
 - FORCE RMTUSER OPER-54
 - issuing OPER-43
 - LARCHIVE OPER-50
 - RESET OPER-61
 - RESET CRR LOGNAMES OPER-62
 - RESET HIGHSTOR OPER-62
 - RESET INDOUBT OPER-63
 - RESET POOL OPER-202
 - SET OPER-63
 - SET APPCVM OPER-17
 - SET LANGUAGE OPER-56
 - SET POOL OPER-203
 - SET SAVEINTV OPER-205
 - SET TARGETWS OPER-206
 - SHOW ACTIVE OPER-65, OPER-206
 - SHOW ADDRESS OPER-69
 - SHOW BUFFERS OPER-70, OPER-207
 - SHOW CONNECT OPER-73
 - SHOW CRR LOGNAMES OPER-80
 - SHOW DBCONFIG OPER-81
 - SHOW DBEXTENT OPER-84
 - SHOW DBSPACE OPER-85
 - SHOW INDOUBT OPER-87
 - SHOW INITPARM OPER-89
 - SHOW INVALID OPER-90
 - SHOW LOCK ACTIVE OPER-93, OPER-208
 - SHOW LOCK DBSPACE OPER-96
 - SHOW LOCK GRAPH OPER-98, OPER-209
 - SHOW LOCK MATRIX OPER-103
 - SHOW LOCK USER OPER-106
 - SHOW LOCK WANTLOCK OPER-108
 - SHOW LOG OPER-50, OPER-113
 - SHOW LOGHIST OPER-114
 - SHOW POOL OPER-118, OPER-209
 - SHOW SAVEINTV OPER-211
 - SHOW STORAGE OPER-130
 - SHOW SYSTEM OPER-133
 - SHOW TARGETWS OPER-212
 - SQLEND OPER-11
 - syntax OPER-viii
 - TRACE OPER-161
 - commands and syntax, Database Services Utility DBSU-135
 - commands, control DBSU-135
 - commas, initialization options OPER-4, OPER-6
 - comment
 - Database Services Utility COMMENT command DBSU-137
 - in SQL statements DBSU-24
 - retrieving from catalog tables DBA-56
 - storing DBA-55
 - COMMENT ISQL-76
 - COMMENT command DBSU-137
 - COMMENT ON APP-262
 - COMMENT ON
 - how it works DIAG-333
 - COMMENT ON PROCEDURE
 - how it works DIAG-333
 - COMMENT ON PROCEDURE statement description SQLREF-181

COMMENT ON statement DBA-56
COMMENT ON statement
column name qualification
SQLREF-64
description SQLREF-179
EXECUTE IMMEDIATE statement
SQLREF-272
PREPARE statement SQLREF-315
COMMENT PROCEDURE
how it works DIAG-334
COMMENT PSERVER
how it works DIAG-334
comments
host language SQLREF-36
in catalog SQLREF-179, SQLREF-181
in static SQL statements SQLREF-36,
SQLREF-144
comments, CMS files for starting the
application server OPER-5
comments, source members for starting
the application server OPER-6
commit SQLREF-18
COMMIT APP-19
COMMIT
recommendations APP-16
using ISQL-29
COMMIT operation
command processing DBSU-24
LUW determination by Database
Services Utility DBSU-24
message example DBSU-45
COMMIT statement
description SQLREF-183
COMMIT WORK DBA-121, SYVM-194,
SYVM-251, SYVM-144, SYVM-195
COMMIT WORK
checkpoint PERF-103
in application programs DBA-172
ISQL PERF-112
lock escalation PERF-100
log cushion PERF-107
performance problem index DIAG-139
statement PERF-102
to avoid lock waits DIAG-178,
DIAG-206
to reduce link waits DIAG-150
use to avoid lock wait problems
DIAG-147
COMMITCOUNT
locking PERF-114
use to avoid link waits DIAG-151
COMMITCOUNT parameter
description DBSU-44
example DBSU-45
reference DBSU-163
RELOAD DBSPACE command
DBSU-193
RELOAD TABLE command
DBSU-199
committing
changes
automatically ISQL-30
logical units of work ISQL-29
data
automatically ISQL-129
records while loading DBSU-44
committing changes
COMMIT option of FORCE command
OPER-53
SET AUTOCOMMIT DBSU-24
tables APP-19
committing changes, nonrecoverable data
SYVM-241, SYVM-178
common column names APP-67
common operator SYVM-53
communication
blocking PERF-110
DRDA protocol PERF-108
synchronous PERF-112
tracing OPER-192
wait OPER-102
communication concepts
DRDA data streams DIAG-24
mailbox functions DIAG-24
resource adapter interaction DIAG-24
communication protocol
DRDA SQLREF-25
SQLDS SQLREF-25
communication protocol, specifying
SYVM-57
COMMUNICATION WAIT
definition of DIAG-131
holding agents DIAG-148
indicator, definition of DIAG-130
performance problem index DIAG-140
when locks held long time DIAG-204
comparison
compatibility rules SQLREF-53
datetime values SQLREF-59
numbers SQLREF-57
operation SQLREF-53
operator APP-42
predicate
DB2 Server for VSE & VM
equivalent term SQLREF-423
predicate subquery
DB2 Server for VSE & VM
equivalent term SQLREF-423
strings SQLREF-58
comparison operator
in a basic predicate SQLREF-79
in a quantified predicate SQLREF-80
compatibility
data type SQLREF-53
lock DIAG-71, PERF-95
rules SQLREF-53
compile partition size PERF-80
compiling
program APP-142, APP-178
completion code
See SQLCODE
component identification DIAG-82
components of DB2 Server for VSE & VM
DIAG-5
components of the DB2 Server for VSE &
VM RDBMS, definitions DBSU-viii
composite key SQLREF-11
CONCAT operator SQLREF-71
concatenation
EXECUTE IMMEDIATE APP-216
field procedure SQLREF-72
operator APP-54, SQLREF-72
shift-in character SQLREF-72
concatenation (*continued*)
shift-out character SQLREF-72
symbol APP-54
symbol for DB2 Server for VSE & VM
DBSU-110
concepts
authorization DIAG-327
authorization
catalog updates DIAG-327
grant authorities DIAG-327
grant run privileges DIAG-328
grant table privileges DIAG-327
revoke authorities DIAG-329
revoke run privilege DIAG-329
revoke table privilege DIAG-329
interpretive commands DIAG-329
interpretive commands
ACQUIRE DBSPACE DIAG-329
ALTER DBSPACE DIAG-330
ALTER PROCEDURE DIAG-330
ALTER PSERVER DIAG-330
COMMENT ON DIAG-333
COMMENT ON PROCEDURE
DIAG-333
COMMENT PROCEDURE
DIAG-334
COMMENT PSERVER DIAG-334
CREATE INDEX DIAG-333
CREATE SYNONYM DIAG-334
CREATE TABLE DIAG-334
CREATE VIEW DIAG-335
DROP DBSPACE DIAG-336
DROP INDEX DIAG-336
DROP PACKAGE DIAG-337
DROP PROCEDURE DIAG-337
DROP PSERVER DIAG-337
DROP SYNONYM DIAG-337
DROP TABLE DIAG-338
DROP VIEW DIAG-338
how they work DIAG-329
LABEL ON DIAG-339
UPDATE STATISTICS DIAG-339
overview DIAG-5
concurrency
agent PERF-88
allocating agent structure PERF-89
as overhead PERF-11
CICS PERF-90
CICSPARS PERF-90
CIRB transaction PERF-90
concurrent ISQL users PERF-80
cost of additional real agents PERF-89
description PERF-88
differences between real and pseudo
agents PERF-91
dispatching agents PERF-92
DISPBAS PERF-93
fair share auditing PERF-93
guest sharing PERF-91
LOCK DBSPACE statement
SQLREF-306
LOCK TABLE statement SQLREF-307
long versus short LUW PERF-93
MAXCONN PERF-91
NCUSERS PERF-89
operator SHOW commands PERF-28
prioritization PERF-92

concurrency (*continued*)
 privileged remote DRDA user
 PERF-92
 pseudo-agents PERF-90
 RMTUSERS PERF-91
 SHOW CONNECT PERF-90
 SHOW USERS PERF-90, PERF-92
 startup mode PERF-93
 VM user PERF-89
 VSE batch user PERF-89
 VSE interactive user PERF-89
 VSE remote DRDA user PERF-89

concurrency level DIAG-230

concurrent
 access APP-258
 archive SYVM-71, SYVM-64
 scans OPER-184
 specifying users SYVM-62, SYVM-55
 users OPER-184
 users, limit SYVM-62, SYVM-56

conditional JCL
 startup for virtual disk PERF-53

configuration
 application development SYVM-4
 application server OPER-81
 batch/interactive SYVM-1
 concepts SYVM-265, SYVM-211
 consideration, distributed PERF-81
 database manager SYVM-265
 multiple database machines and
 multiple databases SYVM-267
 multiple database partitions and
 multiple databases SYVM-213
 national language support SYVM-271,
 SYVM-272
 one database machine and one
 database SYVM-266
 one database partition and one
 database SYVM-212
 online transaction processing SYVM-2
 primary database machine SYVM-274
 query/report writing SYVM-5
 secondary database machine
 SYVM-274
 secondary production minidisk
 SYVM-273
 service machine and processor
 SYVM-271
 VSE guest sharing SYVM-301

configurations of the DB2 Server for VM
 system DBA-193, DBA-201

connect
 authority SQLREF-32

CONNECT DBA-99, DBA-171

CONNECT
 application programs APP-12
 connecting to Database Services
 Utility DBSU-20
 explicit DBA-89
 implicit DBA-89
 processing DBSU-20
 statement APP-113
 to switch databases DBA-197
 user identification DBSU-20

CONNECT (for VM) statement
 SQLREF-186, SQLREF-191

CONNECT (for VSE) statement
 SQLREF-192, SQLREF-197

CONNECT authority DBA-90

CONNECT authority
 description APP-268
 granting APP-268

CONNECT clause
 of GRANT statement SQLREF-291
 of REVOKE statement SQLREF-329

connected users, displaying OPER-122,
 OPER-125, OPER-135, OPER-137,
 OPER-138, OPER-141, OPER-143

connecting
 another application server DBSU-21
 database manager DBSU-21
 to an application server DBA-97,
 DBA-100
 to application server
 CICS transactions DBA-103
 explicitly DBA-99
 implicitly DBA-97, DBA-99

connecting DB2 Server for VSE & VM
 DBSU-20

connecting DB2 Server for VSE & VM
 application programs APP-12

connecting to the application server
 CICS/VSE transactions APP-153

connecting to the DB2 Server for VSE &
 VM system DBA-171

connection states SQLREF-188,
 SQLREF-196

consecutive keys, possible lock wait
 problems DIAG-145

considerations for
 application database DBA-165
 creating a table DBA-39
 creating indexes DBA-51
 deferred constraint enforcement
 DBA-69
 DELETE, INSERT, UPDATE DBA-7
 normalization DBA-29
 referential integrity DBA-39
 row size DBA-29
 unique constraints DBA-38

consistency
 of data APP-18
 points of SQLREF-19
 token APP-122, APP-144, APP-147,
 APP-163, APP-180, APP-185

consistently high response time
 DRDA usage DIAG-174
 query block size too small DIAG-222

CONSISTENTLY HIGH RESPONSE TIME
 INDICATOR
 definition of DIAG-130

console
 disconnecting OPER-11
 how to access OPER-43
 issuing commands OPER-44
 issuing operator commands OPER-43
 SHOW PROC command OPER-122
 SHOW PSERVER command
 OPER-125
 SHOW USERS command OPER-135
 signing off OPER-11
 START PROC command OPER-137

console (*continued*)
 START PSERVER command
 OPER-138
 START TCPIP command OPER-140
 STOP PROC command OPER-141
 STOP PSERVER command OPER-143

console log PERF-21

console, DB2 Server for VMoperator's
 SYVM-53

constant
 CCSID APP-57
 character string SQLREF-60
 character subtypes APP-57
 character subtypes
 DBCS option SQLREF-61
 mixed SQLREF-61
 SBCS SQLREF-61

data type, character string SYVM-318,
 SYVM-244

decimal SQLREF-60

description SQLREF-59

floating-point SQLREF-60

graphic string SQLREF-61

hexadecimal SQLREF-60

in IN predicate SQLREF-84

in INSERT statement SQLREF-299

integer SQLREF-60

search conditions APP-53

select-list expressions APP-29

CONSTKN column SQLREF-369

CONSTKN column
 of SYSACCESS SQLREF-374

constraint
 defer APP-297
 enforce APP-297
 naming conventions APP-25
 referential APP-289
 removing PERF-12
 unique DBA-5
 unique
 comparison to unique index
 DBA-38
 considerations in defining DBA-38
 description DBA-38
 instead of unique index DBA-48

constraint_name
 description SQLREF-38
 in ALTER TABLE statement
 SQLREF-159, SQLREF-162,
 SQLREF-163
 in CREATE TABLE statement
 SQLREF-222, SQLREF-226
 length limitation SQLREF-349

contention
 for resources APP-258

continuation character
 setting ISQL-130
 using ISQL-13

CONTINUATION keyword
 LIST command ISQL-120
 SET command ISQL-130

continuation of Database Services Utility
 records DBSU-136

continuation of SQL statements
 assembler APP-314
 C APP-330
 COBOL APP-352

continuation of SQL statements
 (*continued*)
 Fortran APP-370
 PL/I APP-382
 placement of SQL statements APP-370
 CONTINUE clause
 of WHENEVER statement
 SQLREF-347
 CONTINUE response SYVM-217,
 SYVM-160
 CONTINUED parameter
 DATALOAD's INFILE subcommand
 DBSU-159
 specifying input records DBSU-42
 continuity of log archives SYVM-228,
 SYVM-168
 control
 terminal
 CICS OPER-44
 control block dump, specifying
 OPER-181
 control blocks DIAG-294
 control commands, description DBSU-8,
 DBSU-135
 control file
 building task DBSU-13
 SQL statements DBSU-143
 control parameters
 API (Application Programming
 Interface) DBSU-115
 example DBSU-118
 task DBSU-118
 Control Program (CP)
 CP DISCONN command OPER-11
 control statements
 for trace formatter OPER-170
 controller PERF-75
 controlling
 access to ISQL SYVM-141, SYVM-119
 access to remote users SYVM-121
 active user number SYVM-105,
 SYVM-90
 changes to your table ISQL-29
 data location SYVM-156, SYVM-132
 device and channel utilization
 SYVM-156, SYVM-132
 display of data
 description ISQL-2
 larger than one display ISQL-20,
 ISQL-25
 report format ISQL-39, ISQL-57
 query format characteristics ISQL-55
 controlling access to
 application server DBA-90
 data DBA-166
 CONTROLPW password OPER-194
 CONV trace OPER-193
 conventions
 example PERF-xii
 highlighting DBA-xi, DBSU-xi
 highlighting in this book ISQL-xvi
 mixed data representation SQLREF-6
 syntax diagram notation APP-ix,
 DBA-xiii, DBSU-xiii, DIAG-x,
 ISQL-xi, OPER-viii, PERF-viii,
 SQLREF-2, SYVM-xi, SYVM-xi

COUNTER (*continued*)
 PAGEREAD, in buffer hit ratio
 DIAG-155, DIAG-157
 COUNTER command SYVM-65,
 SYVM-58
 COUNTER operator command OPER-58
 COUNTER POOL OPER-199
 COUNTER POOL
 DB2 Server DSS PERF-9
 counters
 BEGINLUW OPER-58
 CHKPOINT OPER-58
 DASDIO OPER-59
 DASDREAD OPER-59
 DASDWRT OPER-59
 DBSSCALL OPER-58
 DEADLCK OPER-59
 DIRREAD OPER-59
 DIRWRITE OPER-59
 ESCALATE OPER-59
 LDIRBUFF OPER-59
 LOCKLMT OPER-58
 LOGREAD OPER-59
 LOGWRITE OPER-59
 LPAGBUFF OPER-59
 LTIMEOUT OPER-59
 PAGEREAD OPER-59
 PAGWRITE OPER-59
 RDSCALL OPER-58
 resetting OPER-61, OPER-62
 ROLLBACK OPER-58
 WAITLOCK OPER-59
 CP
 commands ISQL-91
 commands
 DISCONN SYVM-91, SYVM-141
 LINK in SQLFDEF SYVM-291
 entering ISQL-91
 monitor PERF-7
 SPOOL ISQL-92
 TAG ISQL-92
 time PERF-15
 CP directory
 maximum PERF-211
 statement
 ACCESSLIST PERF-178
 ADDRSPACE PERF-178
 MACHINE PERF-178
 XCONFIG PERF-178
 update PERF-178
 CP DUMP OPER-164
 CP QUERY TIME PERF-8
 CPU
 as a resource PERF-9
 load measurement PERF-14, PERF-17
 one database machine needs too much
 DIAG-216
 time used PERF-29
 CREATE
 performance problem index DIAG-137
 create index
 privilege SQLREF-33
 CREATE INDEX APP-261, DIAG-166,
 ISQL-69, ISQL-85
 CREATE INDEX
 before loading DIAG-172
 how it works DIAG-333
 CREATE INDEX (*continued*)
 large sorts required DIAG-166
 PCTFREE clause DBA-48
 possible I/O problems DIAG-169,
 DIAG-199, DIAG-224
 reorganize a single table PERF-71
 using the statement DBA-47
 CREATE INDEX statement
 description SQLREF-199
 EXECUTE IMMEDIATE statement
 SQLREF-272
 GRANT statement SQLREF-295
 PREPARE statement SQLREF-315
 CREATE PACKAGE statement
 description SQLREF-202
 DROP STATEMENT statement
 SQLREF-263
 CREATE PROCEDURE statement
 description SQLREF-209
 EXECUTE IMMEDIATE statement
 SQLREF-272
 CREATE PROGRAM
 blocking PERF-110
 CREATE PSEVER statement
 EXECUTE IMMEDIATE statement
 SQLREF-272
 CREATE SYNONYM APP-262, ISQL-84
 CREATE SYNONYM
 how it works DIAG-334
 CREATE SYNONYM statement
 description SQLREF-219
 EXECUTE IMMEDIATE statement
 SQLREF-272
 PREPARE statement SQLREF-315
 CREATE TABLE APP-261, DBA-28,
 DBA-90, DBA-176
 CREATE TABLE
 how it works DIAG-334
 CREATE TABLE statement SYVM-372,
 SYVM-293
 CREATE TABLE statement
 dbspace ISQL-77
 description SQLREF-220
 effect on stored query ISQL-82
 example ISQL-77
 EXECUTE IMMEDIATE statement
 SQLREF-272
 NOT NULL option ISQL-78
 PREPARE statement SQLREF-315
 public dbspace ISQL-84
 share ISQL-84
 CREATE VIEW
 how it works DIAG-335
 using the statement DBA-42
 WITH CHECK OPTION APP-62,
 DBA-42, DBSU-146, DBSU-197
 CREATE VIEW statement
 description SQLREF-232
 EXECUTE IMMEDIATE statement
 SQLREF-272
 PREPARE statement SQLREF-315
 creating
 back-up copy of a database DBA-135
 bootstrap package PERF-182,
 SYVM-188
 CMS files containing initialization
 parameters SYVM-89
 creating (*continued*)
 database archive SYVM-201,
 SYVM-152
 database machine SYVM-265
 foreign key ISQL-80
 HELP text table DBA-144
 index ISQL-85
 indexes APP-261
 indexes
 considerations DBA-51
 free space considerations DBA-48
 general information DBA-47
 key DBA-51
 ordering columns in key DBA-48
 to implement design DBA-17
 unique DBA-48
 log archive SYVM-206, SYVM-154
 parameter data sets SYVM-77
 parameter file SYVM-89
 primary key DBA-38, ISQL-80
 referential constraint ISQL-80
 referential structure ISQL-80
 report from query results ISQL-46,
 ISQL-109
 restrictions in creating DBA-44
 restrictions on using DBA-44
 routine ISQL-67, ISQL-69
 ROUTINE table ISQL-69
 SQLFDEF file SYVM-290
 synonym APP-262, ISQL-84
 table APP-261, ISQL-76, ISQL-83
 table
 description DBA-27
 field procedure APP-261
 foreign key DBA-39
 NULL value APP-261
 primary key DBA-39
 referential constraints DBA-39
 referential integrity APP-261,
 DBA-39
 to implement design DBA-17
 unique constraint APP-261
 user archive SYVM-205, SYVM-153
 user machines SYVM-282
 view APP-62
 view
 description DBA-42
 for multiple tables DBA-43
 for one table DBA-43
 new column names DBA-44
 restrictions on DBA-44
 to implement design DBA-17
 using several tables DBA-43
 creation, package SQLREF-10
 CREATOR column SQLREF-369
 CREATOR column
 of SYACCESS SQLREF-373
 of SYSCATALOG SQLREF-375
 of SYSCOLAUTH SQLREF-379
 of SYSCOLSTATS SQLREF-380
 of SYSCOLUMNS SQLREF-381
 of SYSFIELDS SQLREF-386
 of SYSFPARMS SQLREF-387
 of SYSINDEXES SQLREF-388
 of SYSPROGAUTH SQLREF-396
 of SYSSYNONYMS SQLREF-402

cross-partition communication protocol
DIAG-32

CRR
CRR commands OPER-150
displaying in-doubt agents at the
database manager OPER-87
displaying log names DB2 uses during
resynchronization initialization
OPER-80
erasing records of in-doubt LUWs
forced by the FORCE command
OPER-63
FORCE RINIT for forcing
Resynchronization Initialization
OPER-54
FORCE RREC for forcing
Resynchronization Recovery
OPER-54
resetting log names DB2 uses during
Resynchronization Initialization
OPER-62
resynchronization initialization status
displayed using SHOW CONNECT
OPER-79
resynchronization recovery status
displayed using SHOW CONNECT
OPER-79

CS attribute
isolation level SQLREF-21
isolation option
CREATE PACKAGE statement
SQLREF-203

CS isolation level DBSU-219

CSMT transaction SYVM-132, SYVM-116

CSSN transaction DBA-103

CSTT transaction PERF-18

CTIME counter PERF-15

CTOKEN preprocessor parameter
APP-122, APP-163

cultural sorting APP-32, APP-280

CUREXTNT
control statement
database generation SYVM-294
estimating SYVM-19, SYVM-18
keyword control statement SYVM-294

CUREXTNT control statement SYVM-220

CUREXTNT control statement for
database generation SYVM-221

CURRENT DATE special register
SQLREF-62

current row of a cursor APP-33

CURRENT SERVER special register
SQLREF-63

current SQL statement
changing ISQL-34, ISQL-102
description ISQL-31
displaying ISQL-63, ISQL-124
reentering ISQL-31
starting
placeholder in statement ISQL-36
START command ISQL-31,
ISQL-135
storing ISQL-61, ISQL-136

CURRENT TIME special register
SQLREF-63

CURRENT TIMESTAMP special register
SQLREF-63

CURRENT TIMEZONE special register
SQLREF-63

cursor
See also DECLARE CURSOR statement
blocking SQLREF-323
closed state APP-33, SQLREF-310
closed upon error
DELETE statement SQLREF-246
FETCH statement SQLREF-285
UPDATE statement SQLREF-342
closing APP-37, SQLREF-176,
SQLREF-178
COMMIT statement SQLREF-184
current row APP-33, SQLREF-285
declaring APP-33
defining SQLREF-236
description APP-33
Extended DECLARE CURSOR
statement SQLREF-241
Extended FETCH statement
SQLREF-288
Extended OPEN statement
SQLREF-313
Extended PUT statement SQLREF-326
fetch PERF-110
fetching APP-35
insert PERF-110, SQLREF-236,
SQLREF-308
inserting APP-36
locking stability APP-134, APP-170
management APP-33
maximum declared in a program
SQLREF-350
maximum number opened at one time
SQLREF-350
movement key ISQL-10, ISQL-12
moving position SQLREF-284
name
syntax rules APP-34
naming convention APP-25
open state APP-33
opening APP-34, SQLREF-308,
SQLREF-313
ordering results APP-38
positions when open SQLREF-285
query SQLREF-236, SQLREF-308
result table APP-33, SQLREF-237
ROLLBACK statement SQLREF-336
scope APP-34
select PERF-110
stability (CS)
isolation level PERF-97
ISQL PERF-113
minimum lock level PERF-96
suppressed blocking PERF-111

CURSOR FOR clause
of Extended DECLARE CURSOR
statement SQLREF-241

cursor stability DIAG-67

cursor stability
guidelines for using ISQL-87
isolation level DBSU-218, ISQL-87,
ISQL-131, SQLREF-21
SET ISOLATION command DBSU-218
to avoid escalations DIAG-204
to avoid excessive locking DIAG-177

cursor stability (*continued*)
to avoid key locking problems
DIAG-146
to avoid long lock waits DIAG-206
use on catalog queries DIAG-182

cursor stability (CS)
isolation level DBSU-219

cursor_name
description SQLREF-38
in CLOSE statement SQLREF-176
in DECLARE CURSOR statement
SQLREF-236, SQLREF-237
in DELETE statement SQLREF-244,
SQLREF-245
in Extended DECLARE CURSOR
statement SQLREF-241
in FETCH statement SQLREF-284
in OPEN statement SQLREF-308
in PUT statement SQLREF-323
in UPDATE statement SQLREF-340,
SQLREF-341
length limitation SQLREF-349

cursor_variable
description SQLREF-38
in Extended CLOSE statement
SQLREF-178
in Extended DECLARE CURSOR
statement SQLREF-241
in Extended FETCH statement
SQLREF-288
in Extended OPEN statement
SQLREF-313
in Extended PUT statement
SQLREF-326

cursor-name SQLREF-147, SQLREF-253

cushion
log OPER-113, OPER-187, PERF-107

Customer Information Control System
(CICS)
AMXT/MXT PERF-80
CEMT transaction SYVM-132,
SYVM-116
CICS partition
31 bit addressing PERF-80
CCW translation PERF-79
connection PERF-89
dispatching priority PERF-79
system paging DASD PERF-45
virtual addressability extension
PERF-79
CICS statistics PERF-8
CICSPARS PERF-8, PERF-17,
PERF-90
CIRB transaction PERF-90
CIRD transaction PERF-8, PERF-21
CIRD transaction
active transactions SYVM-130,
SYVM-114
transaction information SYVM-119,
SYVM-103
CIRT transaction SYVM-128,
SYVM-112
CISQ transaction SYVM-72
CMXT parameter PERF-80
concurrent ISQL users PERF-80
CSMT transaction SYVM-132,
SYVM-116

Customer Information Control System (CICS) *(continued)*
 CSTT transaction PERF-18
 DBDCCICS SYVM-105, SYVM-89
 DFHMCT ID keywords and clocks PERF-19
 DFHMCT macro PERF-19
 DFHSIT macro PERF-18
 ISQL transaction SYVM-72
 link to database partition PERF-90
 measurement tools PERF-8
 online resource adapter PERF-91
 pseudo agent PERF-91
 pseudo-conversational transactions SYVM-71
 release level SYVM-6
 temporary storage PERF-81
 transaction time usage PERF-18
 transactions SYVM-71
 customizing database manager SYVM-339, SYVM-263
 CVD (column value descriptor) SYVM-374, SYVM-376, SYVM-294, SYVM-295

D

damaged data set
 damaged
 log SYVM-164
 damaged dataset
 database SYVM-147
 database and log SYVM-148
 log SYVM-148
 damaged minidisk
 database SYVM-197
 database and log SYVM-198
 log SYVM-198
 damaged minidisks
 damaged
 log SYVM-225
 DASD
 cache PERF-197
 failures
 damaged database SYVM-197, SYVM-147
 damaged database and log SYVM-198, SYVM-148
 damaged log SYVM-198, SYVM-148
 storage for starter database SYVM-10
 DASD Dump Restore (DDR)
 optional software SYVM-4
 utility SYVM-4
 DASD I/O
 *BLOCKIO PERF-45
 as a resource PERF-10
 balancing PERF-75
 channel PERF-75
 checkpoint PERF-103
 controller PERF-75
 DASD I/O system PERF-85
 general consideration PERF-77
 load measurement PERF-15, PERF-17
 NCUSERS PERF-89
 package cache PERF-88
 page format PERF-58
 VSAM PERF-45

DASD storage
 as a resource PERF-10
 CMS reserved minidisk PERF-58
 cost of monitoring PERF-6
 dbextent placement in a volume PERF-78
 distributing PERF-58
 dividing PERF-58
 failure PERF-105
 running out PERF-58, PERF-65
 VSAM entry sequenced data sets (ESDS) PERF-58
 wasting PERF-58
 DASDIO counter OPER-59, PERF-23
 DASDREAD counter OPER-59, PERF-23
 DASDWRIT counter OPER-59, PERF-23
 data
 access change DBA-188
 administration DBA-176
 authorization change DBA-191
 coding by a field procedure SYVM-369, SYVM-290
 consistency APP-18
 embedded in control file DBSU-32
 inconsistent APP-18
 independence DBA-176
 moving DBA-71
 object DBA-17
 prototyping DBA-162
 recovery DBA-17
 standard zoned DBSU-152
 structure change DBA-188
 supported conversions DBA-176
 virtual APP-62
 data areas
 RDIEXT DIAG-316
 RDIIN DIAG-313
 RMAR SYVM-289
 RMXC SYVM-366
 data authorization
 commands, definition of DIAG-131
 performance problem index DIAG-137
 data caching
 data not cached DIAG-167
 expanded storage DIAG-167
 DATA CAPTURE clause
 of ALTER TABLE statement SQLREF-164
 of CREATE TABLE statement SQLREF-228
 data clustering PERF-66
 data code
 SQLDA
 datetime APP-232
 data control tracing OPER-163, OPER-191
 data conversion DBSU-34
 data conversion
 C APP-340
 COBOL APP-359
 DRDA SQLREF-29
 dynamically defined statements APP-230
 Fortran APP-375
 join conditions APP-66
 PL/I APP-386
 summary APP-48

data conversion *(continued)*
 unions APP-90
 data conversion (CONV)
 component description DIAG-9
 possible CPU usage problems DIAG-198
 tracing OPER-193
 data definition APP-260
 data definition
 language, definition of DIAG-131
 performance problem index DIAG-137
 data design
 changing to avoid I/O's DIAG-154, DIAG-158
 changing to avoid lock contention DIAG-147
 use of efficient data types DIAG-171
 data distribution, bad DIAG-151
 data format support DBSU-34
 data integrity SQLREF-12, SQLREF-18
 data integrity
 atomic integrity APP-287
 referential integrity APP-288
 Data Integrity
 entity integrity APP-288
 unique on columns APP-288
 data location
 controlling SYVM-156, SYVM-132
 physical PERF-19
 data manipulation
 language, definition of DIAG-131
 performance problem index DIAG-137
 tracing OPER-191
 data manipulation, tracing OPER-163
 data object SYVM-143, SYVM-123
 data object
 naming DBSU-110
 data page
 description PERF-60
 free space PERF-61
 proportion to other pages PERF-61
 data page buffers
 specifying number OPER-186
 data page free-space management DIAG-44
 data pages
 SYS0001 SYVM-437, SYVM-349
 Data Propagator Capture
 on tables APP-280
 data records in Database Services Utility control files DBSU-136
 data records in Database Services Utility input control card files DBSU-136
 data recovery SYVM-143, SYVM-123
 data set placement (VSE) PERF-20
 data sets
 DB2 Server for VSE parameter SYVM-77
 dbextents SYVM-9
 define VSAM SYVM-35
 directory SYVM-9, SYVM-216
 example VSAM data sets for a database SYVM-215
 log SYVM-9
 protecting VSAM SYVM-119

- data sets (*continued*)
 - starting the application server with password protected data sets SYVM-51
- data space
 - virtual disk PERF-48, PERF-54
- data spaces
 - directory PERF-164
 - internal dbspace PERF-163
 - removing PERF-175
 - storage pool PERF-163
 - turning on and off PERF-189
 - understanding PERF-157
- data stream trace DBA-247, OPER-164, OPER-172
- data system control (DSC)
 - component description DIAG-8
 - overview DIAG-8
- Data System Control (DSC) DBA-17, OPER-160, OPER-163, SYVM-143, SYVM-123
- Data System Control (DSC)
 - list of functions and subcomponents OPER-164
- data type
 - assembler APP-317
 - C APP-346
 - CHARACTER APP-44
 - character string SQLREF-44
 - character string
 - constants SYVM-318, SYVM-244
 - subtypes SYVM-318, SYVM-244
 - choosing between CHAR and VARCHAR DBA-34
 - choosing between VARGRAPHIC and GRAPHIC DBA-34
 - COBOL APP-364
 - compatibility SQLREF-53
 - constants SYVM-318, SYVM-244
 - conversion supported by the DB2 Server for VSE & VM system DBA-172
 - date SQLREF-48
 - DATE APP-44, DBA-35, DBSU-150
 - datetime SQLREF-48
 - DBAHW SQLREF-369, SQLREF-381
 - DBAINT SQLREF-369, SQLREF-381
 - DECIMAL APP-44, DBA-179, DBSU-151, DBSU-174
 - DECIMAL
 - default DBA-179
 - OVERFLOW error DBA-179
 - precision and scale of result DBA-180
 - defining, for columns DBA-32
 - description APP-8, APP-44, SQLREF-42, SQLREF-223
 - FIXED DBSU-151, DBSU-173
 - FLOAT APP-44
 - FLOAT or DOUBLE PRECISION DBSU-151
 - FLOAT or REAL DBSU-151, DBSU-174
 - Fortran APP-378
 - GRAPHIC APP-44, DBSU-154
 - graphic string SQLREF-47
 - INTEGER APP-44
- data type (*continued*)
 - LONG VARCHAR APP-44
 - LONG VARGRAPHIC APP-44
 - numeric SQLREF-47
 - numeric data DBA-32
 - of result columns SQLREF-124
 - parameter DBSU-148
 - PL/I APP-391
 - result set locator SQLREF-42
 - SMALLINT APP-44, DBSU-151
 - specified when defining a column DBA-30
 - supported conversions DBA-176
 - time SQLREF-49
 - TIME APP-44, DBA-35, DBSU-150
 - timestamp SQLREF-49
 - TIMESTAMP APP-44, DBA-35, DBSU-151
 - use of same DIAG-190, DIAG-198
 - VARCHAR APP-44
 - VARGRAPHIC APP-44
 - ZONED DBSU-152, DBSU-174
- data unloading tasks DBSU-51
- data utilities, performance problem index DIAG-138
- Data_Field_Id subcommand DBSU-170
- database OPER-84
- database
 - adding SYVM-275, SYVM-284
 - adding
 - dbextents SYVM-157, SYVM-133
 - dbspaces SYVM-145, SYVM-125
 - application server OPER-8
 - archive PERF-105, PERF-179
 - archiving SYVM-196, SYVM-207, SYVM-146, SYVM-155
 - back-up copy creation DBA-135
 - capacity planning SYVM-13, SYVM-31, SYVM-13, SYVM-39
 - column DBA-4
 - COMMIT statement SQLREF-183
 - configurations
 - one machine, one database DBA-194
 - one machine, two databases DBA-195
 - several machines, different processors DBA-197
 - several machines, many databases DBA-196
 - CONNECT statement SQLREF-186, SQLREF-192
 - creating new PERF-195
 - data set definition SYVM-214
 - database archive output file (ARIARCH) OPER-10
 - database extents OPER-82, OPER-84
 - DB2 Server for VSE & VM database manager operator OPER-v
 - defining DBA-4
 - defining a log SYVM-16, SYVM-16
 - defining the directory for SYVM-216
 - definition DBA-193
 - deleting
 - dbextents SYVM-160, SYVM-135
 - design SYVM-143, SYVM-123
- database (*continued*)
 - design
 - analysis DBA-163
 - documentation DBA-163
 - generating test data DBA-162
 - loading test data DBA-162
 - modeling DBA-162
 - normalizing a table DBA-9
 - planning for distributed data DBA-13
 - relationship DBA-2
 - table DBA-2
 - terminology DBA-1
 - using EXPLAIN PERF-154
 - designing using DB2 Server for VSE & VM catalog DBA-53
 - entity DBA-1
 - example SYVM-216, SYVM-159
 - example configuration DBA-194
 - example configurations
 - accessing from another processor DBA-199
 - one machine, one database DBA-194
 - one machine, two databases DBA-195
 - several machines, different processors DBA-197
 - several machines, many databases DBA-196
 - example storage estimate
 - for a production database SYVM-439, SYVM-351
 - for a test database SYVM-438, SYVM-350
 - for an application development database SYVM-439, SYVM-350
 - extent
 - See DBEXTENT
 - extents SYVM-7, SYVM-9
 - filtered access OPER-182
 - generation DBA-17, DBA-20, OPER-188
 - generation
 - additional databases SYVM-265, SYVM-286
 - checklist SYVM-27, SYVM-35
 - control statements SYVM-294
 - design considerations SYVM-14, SYVM-14
 - job control SYVM-219
 - keyword control statements SYVM-294, SYVM-221
 - MAXPOOLS keyword PERF-59
 - parameters SYVM-13, SYVM-13
 - planning SYVM-13, SYVM-13
 - process SYVM-284, SYVM-213
 - regeneration SYVM-27, SYVM-34
 - restarting from a failure SYVM-221, SYVM-163
 - service minidisk SYVM-281
 - SQLDBINS EXEC SYVM-279
 - summary of parameters SYVM-13, SYVM-13
 - summary of process SYVM-300
 - identification statements SYVM-217

- database (*continued*)
 - identification statements (DBNAME01 procedure) SYVM-218
 - implementing the design DBA-17
 - installing optional components into SYVM-225
 - job control SYVM-134, SYVM-135, SYVM-217, SYVM-218
 - logical design DBA-180
 - machine DBA-193
 - machine
 - 31 bit addressing PERF-47
 - address space size PERF-47
 - auxiliary storage PERF-43
 - buffer pool PERF-85
 - CPU load PERF-17
 - DASD I/O load PERF-15
 - fair share scheduling PERF-78
 - load on PERF-23
 - overall performance PERF-15
 - SHOW STORAGE PERF-27
 - virtual storage load PERF-14
 - machine operator OPER-44
 - machine size SYVM-4
 - maintaining consistency under ISQL DBA-174
 - maintenance
 - altering the design DBA-57
 - procedure DBA-77
 - removing DBA-58
 - removing tables DBA-73
 - maintenance procedures SYVM-119
 - manager DBA-193
 - manager
 - storage PERF-85
 - maximum size SYVM-15, SYVM-15
 - maximums SYVM-18, SYVM-446, SYVM-17, SYVM-358
 - migration SYVM-31, SYVM-39
 - minidisks
 - replacement SYVM-223
 - minimum sizes SYVM-7, SYVM-9
 - mode OPER-195
 - moving DBA-79
 - moving
 - dbextents SYVM-168, SYVM-140
 - log disks SYVM-170, SYVM-141
 - multiple DBA-193, SYVM-39, SYVM-266, SYVM-46, SYVM-212
 - multiple
 - user implications SYVM-267
 - name SYVM-23, SYVM-23
 - name
 - conversion SYVM-45
 - online archive OPER-46, OPER-47
 - operating mode DBA-194
 - operator
 - description SYVM-53
 - parameters set at database generation time SYVM-13, SYVM-13
 - physical
 - concept DBA-19, SYVM-144, SYVM-124
 - design SYVM-144, SYVM-124
 - physical design SYVM-140
- database (*continued*)
 - recovery considerations DBA-121, DBA-137, SYVM-193, SYVM-249, SYVM-143, SYVM-187
 - recovery from user logic error DBA-135
 - regeneration SYVM-27, SYVM-34
 - relationship DBA-1
 - renaming SYVM-45, SYVM-49
 - resetting data DBA-136
 - resource adapter DBA-193
 - restoring SYVM-207, SYVM-215, SYVM-216, SYVM-156, SYVM-158, SYVM-159
 - ROLLBACK statement SQLREF-335
 - service machine DBA-193
 - showing application server configuration OPER-81
 - showing database extents OPER-84
 - showing database spaces OPER-85
 - showing dbspace locks OPER-96
 - sizes SYVM-15, SYVM-15
 - specifying name OPER-194
 - specifying password OPER-194
 - starter SYVM-7, SYVM-13, SYVM-9, SYVM-10, SYVM-13
 - storage estimating SYVM-427, SYVM-341
 - storage pool OPER-118
 - support
 - for application development DBA-165
 - for query/report writing DBA-166
 - user machine DBA-193
 - database administrator (DBA)
 - See also* DBA (database administrator)
 - authority DBA-166
 - description APP-268
 - database archive
 - online OPER-46
 - database archive, online OPER-47
 - database configuration OPER-127
 - database I/O's
 - versus paging I/O DIAG-155
 - database interface routine SQLREF-10
 - database machine SYVM-1, SYVM-265
 - database machine
 - configuration SYVM-266, SYVM-274
 - creating SYVM-265
 - DASD requirement PERF-174
 - defining SYVM-265, SYVM-280
 - description SYVM-4
 - example control statements SYVM-275, SYVM-280
 - favored too little DIAG-167
 - in a TSAF collection SYVM-267
 - in an SNA network SYVM-267
 - in an SNA network
 - AVS session limit considerations SYVM-270
 - logoff PERF-178
 - logon PERF-177
 - minidisks SYVM-5
 - modes of operation PERF-171
 - needs too much CPU DIAG-216
 - overview PERF-171
 - preparation SYVM-278, SYVM-280
 - database machine (*continued*)
 - primary SYVM-272, SYVM-274
 - primary
 - adding SYVM-275
 - PROFILE EXEC SYVM-278, SYVM-281
 - secondary SYVM-272, SYVM-274
 - secondary
 - adding SYVM-280
 - size SYVM-4
 - types SYVM-272
 - virtual storage PERF-172
 - database manager
 - building PERF-179
 - environment SYVM-274
 - problems DIAG-273
 - running in disconnect SYVM-91
 - startup using a CMS file SYVM-56
 - startup with password-protected VSAM data sets SYVM-50
 - verifying PERF-179
 - database manager archiving facilities
 - description SYVM-196, SYVM-146
 - using to archive databases SYVM-201, SYVM-152
 - using to archive logs SYVM-206, SYVM-154
 - database partition
 - 31 bit addressing PERF-47, PERF-80
 - address space size PERF-47
 - auxiliary storage PERF-44
 - balancing pool PERF-79
 - batch PERF-79
 - buffer pool PERF-85
 - CICS
 - dispatching priority PERF-79
 - fast CCW translation PERF-79
 - virtual addressability extension PERF-79
 - compile size PERF-80
 - configuration SYVM-212
 - creating SYVM-211
 - DASD I/O load PERF-15
 - deactivation PERF-46
 - load on PERF-23
 - overall performance PERF-15
 - SHOW STORAGE PERF-27
 - Database Services Utility
 - reserved words DBSU-111
 - starting DBSU-3, DBSU-7
 - database services utility (DBS utility)
 - non-DB2 Server for VM application server SYVM-400, SYVM-323
 - Database Services utility (DBS utility)
 - application
 - error handling DBA-170
 - recovery DBA-170
 - security DBA-170
 - connecting implicitly DBA-98
 - copying a table DBA-62
 - DATALOAD DBA-172
 - DATAUNLOAD DBA-172
 - failure DBA-128
 - interactive processing DBA-150
 - loading test data DBA-172
 - maintenance of a database DBA-77
 - message file DBA-128

Database Services utility (DBS utility) *(continued)*
 overview of uses DBA-150
 printing the HELP text DBA-147
 report writing DBA-157
 restriction for view DBA-46
 termination DBA-128
 testing SQL functions DBA-164
 to load data DBA-59
 under VSE/ICCF DBA-59
 UNLOAD/RELOAD
 reorganizing data DBA-150
 resetting data DBA-133

Database Services Utility (DBSU)
 description DIAG-7

Database Services Utility command
 definition DBSU-135

database storage subsystem (DBSS)
 initialization DIAG-10
 management DIAG-10
 manipulation DIAG-10
 overview DIAG-10
 sort component DIAG-10

Database Storage Subsystem (DBSS)
 OPER-160, OPER-163

Database Storage Subsystem (DBSS)
 calls OPER-58
 functions and subcomponents
 OPER-163
 OP Codes DIAG-298

database, starter DBSU-106

DATACODE column SQLREF-369

DATACODE column
 of SYSKEYCOLS SQLREF-390

DATALOAD
 automatic statistics collection
 PERF-113
 clustering index PERF-67
 free page space PERF-40
 locking PERF-114
 PCTFREE PERF-62

DATALOAD and RELOAD locking
 considerations DBSU-228

DATALOAD command
 COMMITCOUNT processing
 DBSU-163
 description DBSU-145
 embedded data DBSU-32
 file definition DBSU-35
 procedures DBSU-31
 separate input file DBSU-31

dataset
 damaged
 database SYVM-147
 database and log SYVM-148
 log SYVM-148

DATAUNLOAD
 locking PERF-114

DATAUNLOAD command
 conversion table DBSU-187
 description DBSU-168
 procedures DBSU-51
 user-determined format DBSU-57

date SQLREF-48

date
 arithmetic operations
 duration SQLREF-76

date *(continued)*
 description SQLREF-48
 duration
 description SQLREF-74
 ever increasing index PERF-66
 exit SYVM-353, SYVM-276,
 SYVM-277
 representation, internal & SQLDA
 SQLREF-48
 string SQLREF-49

DATE
 assignment SQLREF-57
 data type SQLREF-159, SQLREF-224
 function SQLREF-98
 local DBSU-150, DBSU-172

date arithmetic
 C APP-340

DATE data type DBA-35

DATE data type
 assembler APP-317
 C APP-347
 COBOL APP-365
 Fortran APP-378
 PL/I APP-391

date duration
 description DBA-181

DATE option
 of CREATE PACKAGE statement
 SQLREF-203

DATE parameter of exec DBA-255

DATE parameter of the VSE STDOPT
 JCC/JCS SYVM-121, SYVM-105

date value in CHAR input data field
 DBSU-150

date/time arithmetic
See also arithmetic operation
 performing date/time arithmetic
 operations DBA-37
 rules for date/time arithmetic DBA-37
 using labeled duration expressions in
 arithmetic operations DBA-37

DATEFORMAT parameter of exec
 DBA-246

datetime
 arithmetic operations SQLREF-75,
 SQLREF-78
 assignment
 EUR SQLREF-57
 ISO SQLREF-57
 JIS SQLREF-57
 microseconds SQLREF-57
 USA SQLREF-57
 comparison
 DATE SQLREF-59
 TIME SQLREF-59
 TIMESTAMP SQLREF-59
 constants APP-59

data type
 description SQLREF-48
 string representation SQLREF-49
 exits SYVM-352, SYVM-354,
 SYVM-275, SYVM-277
 format
 EUR SQLREF-50
 ISO SQLREF-50
 JIS SQLREF-50
 LOCAL SQLREF-50

datetime *(continued)*
 format *(continued)*
 USA SQLREF-50
 using CHAR function SQLREF-97
 loading values DBSU-37
 operand SQLREF-74
 DAXP transaction OPER-39
 DAXT transaction OPER-41
 DAY
 function SQLREF-99
 labeled duration SQLREF-71
 DAYS
 function SQLREF-100
 labeled duration SQLREF-71
 DB2 for VM Control Center Operations
 Guide, IBM PERF-9
 DB2 for VM directory
 data spaces support PERF-164
 performance counter PERF-169
 understanding PERF-164
 DB2 Server DSS
 checkpoint PERF-104
 counters PERF-25
 DB2 Server for VM
 advanced program-to-program
 communication (APPC/VM)
 DIAG-27
 code not shared DIAG-227
 Inter-User Communication Vehicle
 (IUCV) protocol DIAG-26
 DB2 Server for VM database manager
 database
 design SYVM-143
 physical design SYVM-144
 operator
 VSE guest sharing SYVM-98,
 SYVM-82
 DB2 Server for VM directory
 reblocking PERF-193
 using PERF-193
 DB2 Server for VM facility, used by EXEC
 DBA-158
 DB2 Server for VM database manager
 operator
 console SYVM-53
 description SYVM-53
 DB2 Server for VSE
 cross-partition communication
 protocol DIAG-32
 database
 design SYVM-123
 DB2 Server for VSE & VM
 agent handling and communications
 DIAG-20
 catalog tables APP-273
 data types, introduction APP-8
 definition OPER-1
 disconnecting OPER-11
 dumps DIAG-278
 FILEDEF commands OPER-10
 forcing a user OPER-51
 free space management DIAG-44
 in multiple user mode DIAG-13,
 DIAG-14
 in single user mode DIAG-13
 initialization options OPER-3
 initialization parameters OPER-179

- DB2 Server for VSE & VM (*continued*)
 - normal shutdown OPER-14
 - online support parameters OPER-17
 - online support parameters for VSE
 - guest sharing OPER-17
 - operating OPER-43
 - operator OPER-v, OPER-1, OPER-43
 - partition OPER-1, OPER-8
 - program problems DIAG-81
 - starting
 - error messages OPER-4
 - multiple user mode OPER-1, OPER-8
 - single user mode OPER-8
 - stopping OPER-11
 - structure and components DIAG-5
 - termination DIAG-78
 - trace facility OPER-155
 - trace-point output OPER-174
 - tracing a CMS file OPER-158
 - tracing in multiple user mode OPER-157
 - tracing in single user mode OPER-158
 - VSE guest sharing OPER-17
 - VSE Guest Sharing OPER-v
- DB2 Server for VSE & VM / ISO-ANS
 - SQL(89) equivalent terms SQLREF-423, SQLREF-425
- DB2 Server for VSE & VM operator console
 - disconnecting OPER-11
 - how to access OPER-43
 - issuing commands OPER-44
 - SHOW PROC command OPER-122
 - SHOW PSERVER command OPER-125
 - SHOW USERS command OPER-135
 - START PROC command OPER-137
 - START PSERVER command OPER-138
 - START TCPIP command OPER-140
 - STOP PROC command OPER-141
 - STOP PSERVER command OPER-143
- DB2 Server for VSE & VM system
 - See also* SQL
 - description ISQL-1
 - display terminal ISQL-3
 - session ISQL-3
 - signing on ISQL-7
- DB2 Server for VSE and VM CICS
 - support, online support OPER-17
- DB2 Server for VSE CICS support, online support OPER-17
- DB2 Server for VSE database manager
 - database
 - physical design SYVM-124
- DB2 Server for VSE operator console, signing off OPER-11
- DB2 Server for VSE production libraries APP-152
- DBA
 - See* database administrator
- DBA (database administrator)
 - authority ISQL-4, ISQL-75
 - granting authority APP-268
- DBA authority
 - ACQUIRE DBSPACE statement SQLREF-145
 - activating keys SQLREF-17
 - CREATE TABLE statement SQLREF-220
 - deactivating keys SQLREF-17
 - description DBA-92, SQLREF-33
 - DROP statement SQLREF-258, SQLREF-259
 - Extended PREPARE statement SQLREF-321
 - introduction DBA-89
 - of GRANT statement SQLREF-291
 - REVOKE statement SQLREF-329
 - SYSTABAUTH catalog table SQLREF-404
 - SYSUSERAUTH catalog table SQLREF-406
 - to ALTER DBSPACE DBA-74
- DBA clause
 - of REVOKE statement SQLREF-329
- DBAAUTH column SQLREF-369
- DBAAUTH column
 - of SYSUSERAUTH and SYSUSERLIST SQLREF-406
- DBAHW
 - catalog SQLREF-369
 - SYSOLUMNS catalog table SQLREF-381
- DBAINT
 - catalog SQLREF-369
 - SYSOLUMNS catalog table SQLREF-381
- DBCS SYVM-243
- DBCS
 - See also* double-byte character set
 - See also* double-byte character set (DBCS)
 - character SQLREF-6
 - option SQLREF-37, SQLREF-46
 - setting for application requester
 - all application requesters SYVM-255
 - an application requester SYVM-256
 - using DSQU SYVM-256
 - using SQLGLOB VSAM file SYVM-255
- DBCS (double-byte character set) SYVM-243
- DBCS (double-byte character set) option SYVM-316, SYVM-243
- programming languages supported SYVM-3
- requirements SYVM-3
- DBCS considerations
 - basic support DBSU-230
 - double-byte character data DBSU-230
 - extended support DBSU-231
 - rules DBSU-230
- DBCS conversion
 - CCSID to CCSID SYVM-363, SYVM-284
 - TRANSPROC exit SYVM-363, SYVM-284
- DBCS option
 - setting by using SQLGLOB SYVM-328
 - setting by using SQLNIT SYVM-329
 - setting for all application requesters SYVM-328
 - setting for an application requester SYVM-329
 - setting for application server SYVM-328, SYVM-254
- DBCS parameter of exec DBA-246, DBA-255
- DBCS shift in/out delimiters DBSU-230
- DBCS/EBCDIC mixed data DBSU-171
- DBCSID column SQLREF-369
- DBCSID column
 - of SYSCCSIDS SQLREF-378
- dbextent SYVM-7
- dbextent
 - adding PERF-65, SYVM-157, SYVM-133
 - allocating dbextent data sets SYVM-133
 - allocation to dbspace PERF-76
 - caching PERF-78
 - capacities of IBM DASDs SYVM-428, SYVM-341
 - caution regarding SYVM-167
 - consecutive placement PERF-78
 - defining minidisks SYVM-157
 - definition SYVM-295, SYVM-220
 - deleting SYVM-160
 - deleting dbextent data sets SYVM-136
 - deleting from a database SYVM-135
 - description APP-254
 - determining initial requirements SYVM-21, SYVM-21
 - estimating sizes SYVM-156, SYVM-132
 - example ARISADD SYVM-137
 - example job control SYVM-136
 - file names (such as DDSK1) SYVM-217
 - initialization parameters SYVM-140
 - mapping to dbspace PERF-59
 - maximum number SYVM-14, SYVM-14
 - MDISK statements for adding SYVM-157
 - moving PERF-75, SYVM-169
 - number PERF-204, PERF-205
 - number per device PERF-204
 - purpose SYVM-7, SYVM-9
 - replacing SYVM-164
 - restructuring PERF-77
 - size PERF-204
 - sizes SYVM-13, SYVM-284, SYVM-13, SYVM-214
 - specifying initial SYVM-295, SYVM-222
 - splitting PERF-77
 - storage PERF-26
 - virtual disk PERF-51, PERF-56
- DBEXTENT
 - description DBA-18
- dbextent storage
 - adding to a database OPER-188
 - deleting from a database OPER-188

dbextent storage (*continued*)
description OPER-84

DBEXTENTS
in DBSS DIAG-47

DBFile preprocessor parameter
VM APP-131

DBList
bind parameter APP-149

DBList preprocessor parameter
VM APP-131

DBMODE initialization parameter
OPER-195

DBMODE parameter SYVM-56

DBNAME directory PERF-92

DBNAME directory
CONNECT statement SQLREF-193
define remote connection SYVM-30
guest sharing SYVM-97, SYVM-81
IBM-supplied default SYVM-28
requirements SYVM-11
sample SYVM-29
set up SYVM-23
updating SYVM-29

DBNAME Directory format
incompatibilities SQLREF-465,
SYVM-516, SYVM-421

DBNAME initialization parameter
OPER-194

DBname parameter
preprocessor APP-130

DBNAME parameter
specifying SYVM-55, SYVM-49
SQLADBEX EXEC SYVM-162
SQLADBSB EXEC SYVM-146
SQLCDBEX EXEC SYVM-151,
SYVM-169
SQLDBGEN EXEC SYVM-288
SQLDBINS EXEC SYVM-287
SQLLOG EXEC SYVM-232
SQLSTART EXEC SYVM-78
starting the application server
SYVM-55, SYVM-49

DBNAME parameter of exec DBA-244,
DBA-253, DBA-258

DBNAME01 procedure
contents SYVM-218
used in ADD DBSPACE operation
SYVM-126

DBP (Dynamic Backout Program) APP-18

DBPSWD initialization parameter
OPER-194

DBPSWD parameter SYVM-119

DBS utility
maintenance of a database SYVM-119

DBS utility (Database Services utility)
automatic statistics collection
PERF-113
lock escalation PERF-114
performance considerations PERF-113
reorganize PERF-73
REORGANIZE INDEX PERF-73
tape blocking PERF-114
unload and reload package PERF-115
UNLOAD block size PERF-114

dbspace APP-25

dbspace
acquiring
identifying characteristics DBA-22
identifying requirements DBA-21
restricted DBA-27

acquiring for packages SYVM-153,
SYVM-129

active pages PERF-40

ADD DBSPACE operation SYVM-146

adding DBA-20, DBA-21, PERF-65,
SYVM-145, SYVM-125

altering the design DBA-73

application development DBA-165

available pages PERF-40

back-up DBA-133

catalog information PERF-39

concept defined SYVM-144,
SYVM-124

consideration for query user DBA-167

control statements SYVM-126

creating APP-254

defining APP-254, DBA-17, DBA-20

definition SYVM-296, SYVM-221

description DBA-19

determining internal dbspace
requirements SYVM-20, SYVM-20

determining requirements
initial SYVM-19, SYVM-20,
SYVM-18, SYVM-20
system dbspaces SYVM-19,
SYVM-18
user dbspace SYVM-20, SYVM-20

DROP
checkpoint PERF-103

dropping APP-259, PERF-59

dropping for force a checkpoint
PERF-64

estimating sizes of DBA-223

extending PERF-65

forcing checkpoint PERF-104

free space, estimating DBA-24

full PERF-65

full
over allocating PERF-65
shadow page PERF-65

index in SYVM-144, SYVM-124

indexes DBA-19, DBA-235

initialization parameters SYVM-127

internal SYVM-21, SYVM-21

LOCK DBSPACE statement PERF-114

lock size APP-258

locking ISQL-88

lockmode PERF-40

mapping table to DBA-21

mapping to dbextent PERF-59

maximum number SYVM-14,
SYVM-14

move PERF-76

naming conventions APP-25

nonrecoverable SYVM-241, SYVM-178

nonrecoverable storage pools
SYVM-247, SYVM-184

overcommitting storage SYVM-156,
SYVM-132

owner APP-254

pages DBA-223

pages for indexes PERF-40

dbspace (*continued*)
PCTFREE PERF-62

percentage of page free PERF-40

private SYVM-296, SYVM-223

private
description ISQL-83
lock DIAG-71, PERF-95
setting isolation level ISQL-88
storing table ISQL-77

PRIVATE DBA-21, DBA-90, DBA-166

public SYVM-20, SYVM-296,
SYVM-19, SYVM-223

public
description ISQL-83
setting isolation level ISQL-86,
ISQL-88
storing table ISQL-77

PUBLIC DBA-21, DBA-166

reassign PERF-76

referential integrity DBA-19

releasing empty pages DBA-75,
PERF-59

removing DBA-77

reorganize PERF-65, PERF-71

reorganizing to free storage pool
pages DBA-74

requirement DBA-20, SYVM-433,
SYVM-344

resetting data DBA-133

restarting the ADD DBSPACE
operation after a failure SYVM-149

scan PERF-118

scan
minimum lock level PERF-96
reorganize index PERF-75
row level locking PERF-97

size estimating DBA-23, DBA-223

size for system dbspaces SYVM-20,
SYVM-20

special
catalog SYVM-14, SYVM-14
HELP text SYVM-14, SYVM-32,
SYVM-14, SYVM-39
HELPTXT DBA-145, DBA-167,
SYVM-19, SYVM-19
internal SYVM-14, SYVM-297,
SYVM-14
ISQL DBA-167, SYVM-19,
SYVM-442, SYVM-19, SYVM-353
package SYVM-14, SYVM-14
SAMPLE DBA-167
SYS0001 SYVM-19, SYVM-19
SYS0002 SYVM-19, SYVM-19

specifying initial SYVM-296,
SYVM-223

SQLADBSB EXEC SYVM-146

SQLADBSB file SYVM-147

storage pool PERF-40

SYS000n DBA-133, DBA-135

system DBA-167

system dbspace requirements
SYVM-19, SYVM-18

table in DBA-19, DBA-41, SYVM-144,
SYVM-124

table placement PERF-121

tables in DBA-21

type DBA-22

- dbspace (*continued*)
 - undercommitting storage SYVM-156, SYVM-132
 - unload DBSU-66, DBSU-67
 - usage parameter DBA-20, DBA-22
 - use in testing DBA-172
 - user dbspace requirements SYVM-20, SYVM-20
- DBSPACE
 - in deadlocks DIAG-301
 - recovery DIAG-49
 - releasing empty pages DIAG-48
 - scan through update statistics DIAG-234
- DBSPACE 1
 - possible key locking problems DIAG-162
 - possible locking problems DIAG-179, DIAG-215
- DBSPACE clause
 - description SQLREF-346
 - of DROP statement SQLREF-258
 - of UPDATE STATISTICS statement SQLREF-345
- DBSPACE locking
 - decreasing DIAG-203
 - possible lock wait problems DIAG-202
 - through escalations DIAG-215
 - to avoid escalations DIAG-204
 - use of DIAG-204
- DBSPACE scans
 - avoiding by indexing DIAG-177
 - avoiding by reorganization DIAG-177
 - avoiding by REORGANIZE INDEX DIAG-169
 - minimizing impact of DIAG-171
 - possible I/O problems DIAG-169, DIAG-200
 - possible lock wait problems DIAG-176
 - when range predicates used DIAG-222
 - with large tables DIAG-200
- dbspace storage
 - adding OPER-188
 - description OPER-83
 - displaying page usage OPER-85
 - percentage of free space OPER-86
 - show dbspace name OPER-96
 - show dbspace number OPER-85
 - show locks OPER-96
- DBSPACE value for LOCK clause
 - of ACQUIRE DBSPACE statement SQLREF-146
 - of ALTER DBSPACE statement SQLREF-149
- dbspace_name
 - description SQLREF-38
 - in CREATE TABLE statement SQLREF-227
 - in DROP statement SQLREF-258
 - in LOCK DBSPACE statement SQLREF-306
 - in UPDATE STATISTICS statement SQLREF-345
- dbspace-name
 - in ACQUIRE DBSPACE statement SQLREF-145
 - in ALTER DBSPACE statement SQLREF-149
 - in ALTER PROCEDURE statement SQLREF-151
 - in CREATE TABLE statement SQLREF-221
- DBSPACENAME OPER-96
- DBSPACENAME column SQLREF-369
- DBSPACENAME column
 - of SYSCATALOG SQLREF-375
 - of SYSDBSACES SQLREF-384
- DBSPACENO OPER-85
- DBSPACENO column SQLREF-369
- DBSPACENO column
 - of SYSACCESS SQLREF-373
 - of SYSCATALOG SQLREF-375
 - of SYSDBSACES SQLREF-384
 - of SYSDROP SQLREF-386
- dbspaces
 - internal SYVM-126
- DBSPACETYPE column SQLREF-369
- DBSPACETYPE column
 - of SYSDBSACES SQLREF-384
- DBSPNUM initialization parameter OPER-180
- DBSS
 - See also* Database Storage Subsystem calls OPER-58
 - functions and subcomponents OPER-163
- DBSS (Database Storage Subsystem) OPER-160, OPER-163
- DBSS errors, recovering from
 - See* recovering from DBSS errors
- DBSSCALL counter OPER-58, PERF-23
- DC trace OPER-163, OPER-191
- DCREATOR column SQLREF-369
- DCREATOR column
 - of SYSUSAGE SQLREF-405
- DCSS, use to avoid paging DIAG-227
- DCSSID option OPER-3
- dcssid parameter
 - preprocessor APP-130
- DCSSID parameter
 - EXECs SYVM-175
 - specifying SYVM-55
 - SQLADBEX EXEC SYVM-162
 - SQLADBSP EXEC SYVM-146
 - SQLDBINS EXEC SYVM-288
 - SQLLOG EXEC SYVM-232
 - SQLSTART EXEC SYVM-78
 - starting the application server SYVM-55
- DCSSID parameter of exec DBA-244, DBA-258
- DDL, definition of DIAG-131
- DDM
 - See* distributed data management
- DDR PERF-76
- DDR (DASD Dump Restore)
 - optional software SYVM-4
 - utility SYVM-4
- DDR (Dump Restore Service Program) OPER-48
- DEACTIVATE ALL clause
 - of ALTER TABLE statement SQLREF-164
- DEACTIVATE FOREIGN KEY clause
 - of ALTER TABLE statement SQLREF-164
- DEACTIVATE PRIMARY KEY clause
 - of ALTER TABLE statement SQLREF-164
- deactivate referential constraint SQLREF-13
- DEACTIVATE UNIQUE clause
 - of ALTER TABLE statement SQLREF-164
- deactivating
 - foreign key ISQL-81
 - primary key ISQL-81
 - unique constraint ISQL-81
- deactivation of partition PERF-46
- DEADLCK counter OPER-59, PERF-23
- deadlock
 - application design PERF-101
 - COUNTER PERF-102
 - description APP-258, DIAG-172
 - example PERF-101
 - hit ratio PERF-23
 - lock contention PERF-102
 - lock escalation PERF-102
 - NCUSERS PERF-89, PERF-101
 - overview PERF-101
 - performance indicator PERF-23, PERF-102
 - problems SYVM-64, SYVM-58
 - reschedule applications PERF-101
 - rollback PERF-102
 - time required to detect PERF-101
 - using trace facility for DIAG-300
- deadlock, description OPER-59
- debug mode processing DBSU-225
- DEBUG storage dump analysis DBSU-226
- debugging DBSU-223, DBSU-225
- DEC
 - See* DECIMAL
- decimal
 - arithmetic
 - addition SQLREF-74
 - division SQLREF-74
 - multiplication SQLREF-74
 - precision SQLREF-74
 - scale SQLREF-74
 - SQLCODE of the SQLCA SQLREF-74
 - subtraction SQLREF-74
 - constant SQLREF-60
 - data type SQLREF-48
 - numbers SQLREF-48
 - operands SQLREF-73
 - precision SQLREF-47, SQLREF-73
 - scale SQLREF-73
 - separator ISQL-130
 - specifying number of places to display ISQL-110
- DECIMAL
 - data type SQLREF-159, SQLREF-223
 - function SQLREF-101

DECIMAL (*continued*)
 function
 precision SQLREF-101
 scale SQLREF-101
 in column definition DBA-32
 storage DBA-225
 decimal arithmetic operation DBA-179
 DECIMAL data type DBSU-151,
 DBSU-152, DBSU-174
 DECIMAL data type
 assembler APP-317
 C APP-346
 COBOL APP-364
 Fortran APP-378
 PL/I APP-391
 DECIMAL keyword
 LIST command ISQL-120
 SET command ISQL-56, ISQL-130
 decimal place
 changing the number displayed
 ISQL-44
 decimal separator ISQL-56
 declarations
 inserting into a program SQLREF-297
 DECLARE CURSOR
 coded queries APP-33
 DECLARE CURSOR statement
 SQLREF-236
 DECLARE CURSOR statement
 description SQLREF-236
 dynamic select SQLREF-142
 OPEN statement SQLREF-308
 PREPARE statement SQLREF-316
 select-statement invocation
 SQLREF-140
 static select SQLREF-142
 DECLARE CURSOR statement, Extended
 SQLREF-241, SQLREF-242
 declaring
 host variables
 assembler APP-312
 C APP-332
 COBOL APP-354
 Fortran APP-371
 PL/I APP-383
 return code structure
 assembler APP-315
 C APP-344
 COBOL APP-361
 Fortran APP-375
 PL/I APP-388
 static external variables
 PL/I APP-383
 DEDICATE parameter PERF-50
 default
 changing CCSID
 summary SYVM-306, SYVM-232
 changing CHARNAME
 summary SYVM-306, SYVM-232
 in syntax diagrams APP-xi, DBA-xv,
 DBSU-xv, DIAG-xiii, ISQL-xiii,
 OPER-x, PERF-x, SQLREF-4,
 SYVM-xiii, SYVM-xiii
 initialization options OPER-2,
 OPER-3
 multiple user mode parameters
 SYVM-56
 default application server DBA-97
 default server SYVM-101, SYVM-85
 default server_name OPER-26,
 SYVM-118, SYVM-120, SYVM-125,
 SYVM-102, SYVM-104, SYVM-109
 default server-name SYVM-115,
 SYVM-99
 defect problems DIAG-81
 DEFINE statements (VSAM) SYVM-134,
 SYVM-216
 defining
 a secondary production disk
 SYVM-274
 additional database machines
 SYVM-265
 database SYVM-9
 database
 log SYVM-16, SYVM-16
 minidisks SYVM-284
 database data sets SYVM-214
 files DBSU-35
 indexes APP-261
 saved segments in VM/ESA ESA
 Feature operating system SYVM-180
 synonym APP-262
 tables APP-261
 tables
 field procedure APP-261
 NULL value APP-261
 referential integrity APP-261
 unique constraint APP-261
 user machines SYVM-282
 view on view APP-63
 VSAM data sets for the database
 SYVM-35, SYVM-214
 definitions, terms DBSU-viii
 DEFSEG
 example
 resource adapter above 16
 megabytes SYVM-184
 using SYVM-180
 defuid option
 with the CIRA transaction OPER-34
 with the CIRB transaction OPER-19
 degree
 of cursor
 DB2 Server for VSE & VM
 equivalent term SQLREF-423
 of table
 DB2 Server for VSE & VM
 equivalent term SQLREF-423
 delaying a checkpoint, log archive
 OPER-69
 delaying a log archive checkpoint
 OPER-68
 delete
 on view SQLREF-18
 SQLGLOB parameters SYVM-253
 DELETE DIAG-72
 DELETE
 delete rules APP-295
 performance problem index DIAG-137
 rules APP-295
 DELETE clause
 of GRANT statement SQLREF-294
 of REVOKE statement SQLREF-331
 delete connected
 table APP-290
 DELETE DBEXTENT operation
 initialization parameters SYVM-140
 delete rule
 cascade SQLREF-13
 CASCADE DBA-7
 dependent table DBA-8
 description SQLREF-13
 of referential constraint SQLREF-13
 parent table DBA-7
 restrict SQLREF-13
 RESTRICT DBA-7
 restrictions SQLREF-16
 set null SQLREF-13
 SET NULL DBA-7
 DELETE statement
 description SQLREF-243, SQLREF-312
 EXECUTE IMMEDIATE statement
 SQLREF-272
 EXPLAIN statement SQLREF-274
 Extended DECLARE CURSOR
 statement SQLREF-241
 FETCH statement SQLREF-285
 GRANT statement SQLREF-294
 isolation level setting ISQL-89
 OPEN statement SQLREF-310
 Positioned form SQLREF-243
 PREPARE statement SQLREF-315
 Searched form SQLREF-243
 DELETE statements (VSAM) SYVM-136
 delete-connected
 definition SQLREF-14
 through multiple paths SQLREF-14
 DELETEAUTH column SQLREF-369
 DELETEAUTH column
 of SYSTABAUTH SQLREF-404
 DELETERULE column SQLREF-369
 DELETERULE column
 of SYSKEYS SQLREF-392
 deleting
 a user DBA-85
 data in a routine ISQL-70
 dbextent storage OPER-188
 dbextents SYVM-135
 dbextents
 from storage pools SYVM-160
 initialization parameters
 SYVM-162, SYVM-140
 indexes ISQL-85
 portions of an SQL statement
 ISQL-35, ISQL-102
 restriction for view DBA-45
 SQL objects SQLREF-258
 stored query DBA-87
 synonym ISQL-85
 table DBA-72, ISQL-78
 tables APP-261
 deleting dbextent data sets SYVM-136
 delimited identifier SQLREF-37
 delimiter token
 description SQLREF-36
 delimiting SQL statements
 assembler APP-314
 C APP-331
 COBOL APP-353
 dynamic execution APP-215

delimiting SQL statements (*continued*)
 PL/I APP-382

DEPARTMENT sample table DBSU-235,
 ISQL-143, SQLREF-411

dependent
 table APP-290

dependent privilege SQLREF-332

dependent table
 definition SQLREF-12
 description DBA-7

dependently inactive table DBA-66

DEPENDENTS column SQLREF-369

DEPENDENTS column
 of SYSCATALOG SQLREF-377

deprived agent DIAG-22, PERF-93

deprived agent
 finding DIAG-22

DESC clause
 of ALTER TABLE statement
 SQLREF-161, SQLREF-163
 of CREATE INDEX statement
 SQLREF-200
 of CREATE TABLE statement
 SQLREF-225, SQLREF-227
 select-statement SQLREF-134

descendent
 table APP-290

descendent table
 definition SQLREF-13

DESCRIBE
 usage techniques APP-218

DESCRIBE CURSOR statement
 description SQLREF-253, SQLREF-254

DESCRIBE option
 of CREATE PACKAGE statement
 SQLREF-205

DESCRIBE PROCEDURE statement
 description SQLREF-255, SQLREF-257

DESCRIBE statement
 description SQLREF-248
 LABEL ON statement SQLREF-305
 PREPARE statement SQLREF-316
 SQLDA SQLREF-359
 SQLLEN value SQLREF-362
 SQLTYPE value SQLREF-362
 variables in SQLDA after DESCRIBE
 SQLREF-248, SQLREF-249

DESCRIBE statement, Extended
 SQLREF-252

descriptor name
 description SQLREF-39

descriptor_name
 in DESCRIBE statement SQLREF-248
 in EXECUTE statement SQLREF-265
 in Extended DESCRIBE statement
 SQLREF-252
 in Extended EXECUTE statement
 SQLREF-269
 in Extended FETCH statement
 SQLREF-288
 in Extended OPEN statement
 SQLREF-313
 in Extended PREPARE statement
 SQLREF-319
 in Extended PUT statement
 SQLREF-326
 in FETCH statement SQLREF-284

descriptor_name (*continued*)
 in OPEN statement SQLREF-308,
 SQLREF-309
 in PUT statement SQLREF-323

design
 data PERF-141
 database PERF-154
 database generation considerations
 SYVM-14, SYVM-14
 evaluation PERF-141
 modifying tables PERF-154

designing DB2 databases
 documentation and analysis DBA-163
 terminology DBA-1

DESTID keyword ISQL-122

DESTINATION (in PRINT command)
 ISQL-60

determining
 initial dbextent requirements
 SYVM-21, SYVM-21
 internal dbspace requirements
 SYVM-20, SYVM-20
 name of column in a table ISQL-76
 name of table or view ISQL-75
 record count DBSU-45

determining problems OPER-155

developing application program DBA-164

developing the first keyword(s) DIAG-82

deviations, functional DIAG-127

device utilization
 load measurement PERF-15

devices
 adding more DIAG-185
 balancing usage DIAG-187
 need more for paging DIAG-221

DFHCSDUP APP-18

DFHMCT CICS macro PERF-19

DFHPCT CICS macroinstruction
 DBA-128

DFHPCT macro instruction SYVM-317

DFHSIT APP-18

DFHSIT
 macro instruction for CICS
 AMXT/MXT PERF-80
 CICSPARS PERF-18

DFHSIT CICS macroinstruction DBA-128

DFI subcommand DBSU-170

diagnosis DIAG-119

diagnosis
 error codes DIAG-119
 error codes
 common user-related DIAG-120
 rolled back due to deadlock (-911)
 DIAG-119
 rolled back, excessive system wide
 lock requests (-912) DIAG-120
 SQL statement failed (-901)
 DIAG-119
 system related DIAG-119
 user-related DIAG-120
 functional deviations DIAG-127
 functional problems DIAG-119
 of performance problems DIAG-129
 of problems DIAG-271
 problem flowchart DIAG-1

DICT trace OPER-191

dictionary tracing OPER-191

digit SQLREF-35

DIGITS function SQLREF-101

diminishing returns, law of PERF-1

DIRBLK parameter
 SQLDBINS SYVM-287

direct access storage device (DASD)
 directory capacity SYVM-429,
 SYVM-342
 space requirements SYVM-5
 storage capacities SYVM-427,
 SYVM-341
 storage capacities
 dbextent capacity SYVM-428,
 SYVM-341
 directory capacity SYVM-429,
 SYVM-342
 log capacity SYVM-428,
 SYVM-341
 storage for the DB2 Server for VM
 production minidisk SYVM-6
 storage for the DB2 Server for VM
 service minidisk SYVM-6

directing the log archive to disk
 SYVM-209, SYVM-210

directory
 additional database machine entries
 SYVM-280
 allocation considerations SYVM-15,
 SYVM-15
 allocations and database size
 SYVM-15, SYVM-15
 buffer
 DASD I/O system PERF-85
 NDIRBUF PERF-87
 performance indicator PERF-24
 caching PERF-78
 capacities of IBM DASDs SYVM-429,
 SYVM-342
 checkpoint PERF-103
 CMS communications SYVM-10
 data set SYVM-216
 delaying changes SYVM-41
 description DBA-17
 example control statements SYVM-275
 example control statements
 user machine SYVM-282
 EXPAND DIRECTORY operation
 SYVM-150, SYVM-128
 expansion SYVM-150, SYVM-128
 file name (BDISK) SYVM-217
 in DBSS DIAG-47
 inconsistencies
 checking for DIAG-267
 recovery actions DIAG-267
 minidisk SYVM-7, SYVM-9
 number of directory buffers OPER-184
 page map table PERF-59
 placement PERF-78
 purpose SYVM-7, SYVM-9
 size SYVM-14, SYVM-284, SYVM-14
 size
 calculating SYVM-432, SYVM-344
 defining SYVM-14, SYVM-14
 solutions PERF-8
 space estimating SYVM-432,
 SYVM-343
 SQLCDBEX EXEC SYVM-150

- directory (*continued*)
 - verification DIAG-267
 - verifying OPER-13, SYVM-91, SYVM-78
 - volume considerations SYVM-15, SYVM-15
- DIRREAD counter OPER-59, PERF-23
- DIRWRITE counter OPER-59, PERF-23
- DISABLE option, FORCE command OPER-53
- disabling a DBSPACE DIAG-265
- disabling VMDSS PERF-188
- disciplines of dispatching SYVM-66, SYVM-60
- DISCONN SYVM-91, SYVM-141
- DISCONN command OPER-11
- disconnecting
 - security SYVM-141
- disconnecting from the DB2 machine OPER-11
- disconnecting the database manager SYVM-91
- discontiguous saved segment
 - defining components SYVM-173
- discontiguous saved segments OPER-3
- discontiguous shared segment
 - defining components SYVM-173
- disk
 - log archive SYVM-209
 - log archiving to SYVM-8, SYVM-10
- DISK
 - option of TRACE command OPER-161
- disk failure recovery OPER-154
- DISK LOAD
 - restriction SYVM-141
- disk locations, VM PERF-19
- disk, log archive OPER-51
- dispatcher SYVM-66, SYVM-60
- dispatcher components DIAG-21
- dispatcher components
 - fair share auditing DIAG-21
 - locating a dispatchable agent DIAG-21
 - prioritization scheme DIAG-21
- dispatcher, adjusting bias OPER-181
- dispatching
 - agents PERF-92
 - fair share auditing PERF-93
 - prioritization PERF-92
 - priority (VSE) PERF-79
 - SET QUICKDSP PERF-79
- DISPBIAS
 - agent dispatching PERF-93
- DISPBIAS initialization parameter OPER-181, SYVM-66, SYVM-60
- DISPBIAS parameter
 - increasing DIAG-225
- display ISQL-10
- display
 - checkpoint performance data OPER-181
 - clearing ISQL-11, ISQL-13
- DISPLAY command ISQL-72, ISQL-105
- display commands (*continued*)
 - definition ISQL-19
 - DISPLAY ISQL-72
 - END ISQL-25, ISQL-106
 - FORMAT ISQL-46, ISQL-55, ISQL-109
 - FORWARD ISQL-20, ISQL-116
 - LEFT ISQL-25, ISQL-119
 - PRINT ISQL-25, ISQL-121
 - RIGHT ISQL-23, ISQL-126
 - TAB ISQL-25, ISQL-138
- display current settings OPER-89
- display device, specifying OPER-194
- display format information
 - storing ISQL-61, ISQL-136
- display mode ISQL-13, ISQL-33
- display screen
 - format ISQL-10
 - VM ISQL-10
- DISPLAY SIGN HEADING SEPARATE APP-359
- display terminal ISQL-3
- display terminal
 - large display support ISQL-1
 - requirements SYVM-8, SYVM-11
 - support ISQL-3
- display, issuing operator commands OPER-45
- displayed column
 - heading (name)
 - changing ISQL-43
 - length, changing ISQL-45
- displaying
 - comments DBSU-137
 - current SQL statement ISQL-63, ISQL-124
 - name
 - column in table ISQL-76
 - table ISQL-75
 - operational characteristics ISQL-120
 - query format characteristics ISQL-55
 - query result
 - 21 or more rows ISQL-20
 - description ISQL-20, ISQL-25
 - from a routine ISQL-72, ISQL-105
 - LEFT command ISQL-119
 - RIGHT command ISQL-126
 - too long for the display ISQL-99, ISQL-116
 - too wide for the display ISQL-23
 - stored SQL statement
 - LIST command ISQL-65, ISQL-120
 - RECALL command ISQL-63
 - transaction information SYVM-119, SYVM-103
 - width for variable character field ISQL-114, ISQL-133
- displaying status information OPER-20
- disqualification, of indexes DIAG-189
- DISTINCT
 - clause of subselect SQLREF-122
 - comparison rules SQLREF-53
 - HAVING clause APP-73
 - in DESCRIBE statement SQLREF-249
 - keyword
 - AVG function SQLREF-91
 - column function SQLREF-91
- DISTINCT (*continued*)
 - keyword (*continued*)
 - COUNT function SQLREF-92
 - MAX function SQLREF-93
 - MIN function SQLREF-94
 - SUM function SQLREF-95
 - select-clause APP-28
- distributed applications
 - application server APP-3
- distributed configuration
 - application planning PERF-83
 - performance implication PERF-83
 - VM PERF-81
 - VSE PERF-81
- distributed data
 - application programming DBA-14
 - description DBA-13
 - implications DBA-15
 - limitations and restrictions DBA-14
 - planning DBA-13
- distributed data management (DDM) DIAG-341, DIAG-355
- distributed relational database
 - application requester, server SQLREF-23
 - AR restrictions SYVM-385
 - restrictions SQLREF-425, SQLREF-427, SYVM-479, SYVM-481, SYVM-389
- distributed relational database architecture
 - See also* DRDA protocol
 - installing DRDA code SYVM-397, SYVM-320
 - removing DRDA code SYVM-397, SYVM-320
- Distributed Relational Database Architecture (DRDA) SQLREF-23
- Distributed Relational Resource Manager (DRRM) OPER-160
- Distributed Relational Resource Manager (DRRM)
 - component description DIAG-9
 - overview DIAG-9
- distributing
 - DASD PERF-58
- distributing packages APP-147, APP-185
- distribution tape PERF-179
- dividing
 - DASD PERF-58
 - processor time PERF-78, PERF-79
- division in SQL expressions APP-52
- DLBL statement OPER-2, OPER-8
- DLBL statements
 - database data sets SYVM-217
 - updating job control SYVM-135
- DM trace OPER-163, OPER-191
- DML, definition of DIAG-131
- DNAME column SQLREF-369
- DNAME column
 - of SYSUSAGE SQLREF-405
- document DIAG-98
- DOUBLE PRECISION
 - data type SQLREF-159, SQLREF-223
- DOUBLE PRECISION data type DBSU-151, DBSU-174
- double precision float APP-45

- double precision floating-point SQLREF-48
- double quotation marks
 - considerations in COBOL APP-119, APP-161
 - identifier DBSU-110
 - parameter value DBSU-136
- double-byte character set (DBCS) SYVM-243
- double-byte character set (DBCS)
 - characters for C APP-346
 - COMMENT ON PROCEDURE statement SQLREF-181
 - COMMENT ON statement SQLREF-180
 - considerations
 - basic support DBSU-230
 - extended support DBSU-231
 - constants APP-58
 - data APP-341
 - data
 - assembler APP-315
 - C APP-341
 - COBOL APP-360
 - Fortran APP-374
 - PL/I APP-386
 - data type APP-365, APP-391
 - data type
 - assembler APP-317
 - Fortran APP-378
 - description DBSU-166
 - GRAPHIC data type DBSU-154
 - identifiers SYVM-316, SYVM-243
 - in LIKE predicate SQLREF-87
 - LABEL ON statement SQLREF-305
 - programming languages supported SYVM-243
 - truncated during assignment SQLREF-56
- double-precision float DBSU-181
- DPLACES (FORMAT command)
 - description ISQL-44
 - multiple keyword ISQL-46, ISQL-52
- DRDA
 - See also* Distributed Relational Database Architecture (DRDA)
 - data conversion SQLREF-29
- DRDA (Distributed Relational Database Architecture)
 - controlling access to SYVM-121
 - password decryption SYVM-122
 - password encryption SYVM-122
 - security SYVM-122
- DRDA data streams DIAG-24
- DRDA flow
 - DATAUNLOAD command DBSU-51
- DRDA protocol
 - access to application server DBA-13
 - APPC/VM communication protocol DIAG-31
 - AR restrictions SYVM-385
 - benefits SYVM-393, SYVM-313
 - blocking PERF-110
 - checklist SYVM-396, SYVM-316
 - communication concepts DIAG-24
 - CONNECT ISQL-3
- DRDA protocol (*continued*)
 - CONNECT statement DBSU-20, DBSU-21
 - DATALOAD command DBSU-27
 - DATALOAD, DATAUNLOAD DBA-72
 - DB2 Server for VM components when using DRDA Protocol DIAG-7
 - DB2 Server for VSE components when Using the DRDA Option DIAG-6
 - DBS utility SYVM-400, SYVM-323
 - description SQLREF-25
 - distributed consideration PERF-81
 - DRDA option PERF-110
 - EXTLUWID DBA-113, DBA-116
 - fetch and insert blocking PERF-83
 - handshaking PERF-109
 - heuristic decision SYVM-329
 - installing DRDA code SYVM-397, SYVM-320
 - introduction DBSU-6
 - ISQL SYVM-401
 - logical unit of work identifier DBA-113
 - overview of the DB2 Server for VM RDBMS DIAG-14
 - overview of the DB2 Server for VSE RDBMS DIAG-14
 - PACKAGE
 - reloading DBSU-87
 - parameter SYVM-57
 - performance considerations PERF-108
 - possible performance problems
 - DIAG-174, DIAG-222
 - preprocessing DBSU-19
 - PROTOCOL parameter PERF-109
 - removing DRDA code SYVM-397, SYVM-320
 - responsibilities SYVM-394, SYVM-314
 - restrictions SQLREF-425, SQLREF-427, SYVM-479, SYVM-481, SYVM-389
 - SQLQRY ISQL-15
- DRDA server support
 - accounting records SYVM-195
- DRDA TRUE support
 - using CICS DAXP transaction OPER-39
 - using CICS DAXT transaction OPER-41
- DRDA user
 - privileged remote PERF-92
 - RMTUSERS PERF-91
 - VSE pseudo agent PERF-89
- DRDA2 command
 - RESET CRR LOGNAMES OPER-62
 - resetting log names DB2 uses during Resynchronization Initialization OPER-62
- DRDA2 commands
 - DAXP OPER-39
 - DAXT OPER-41
 - disabling DRDA2 support in CICS OPER-41
 - displaying in-doubt agents at the database manager OPER-87
- DRDA2 commands (*continued*)
 - displaying log names DB2 uses during resynchronization initialization OPER-80
 - displaying status of DRDA2 distributed unit of work support (SYNCNT parameter) OPER-89
 - erasing records of in-doubt LUWs forced by the FORCE command OPER-63
 - FORCE RINIT for forcing Resynchronization Initialization OPER-54
 - FORCE RREC for forcing Resynchronization Recovery OPER-54
 - managing DRDA2 support in CICS OPER-38
 - RESET INDOUBT OPER-63
 - setting parameter defaults used when DRDA2 support is enabled in CICS OPER-39
 - SHOW CONNECT and resynchronization initialization OPER-79
 - SHOW CONNECT and resynchronization recovery OPER-79
 - SHOW CONNECT protocol indication OPER-73
 - SHOW CRR LOGNAMES OPER-80
 - SHOW INDOUBT OPER-87
 - SYNCNT startup parm OPER-189
- DRDA2 Commands
 - CRR commands OPER-150
 - using SHOW CONNECT and SHOW INDOUBT OPER-148
- drive
 - alternate tape SYVM-76
- drive, alternative tape OPER-11
- DROP
 - performance problem index DIAG-137
- DROP DBSPACE APP-259, DBA-58, DBA-86
- DROP DBSPACE
 - checkpoint PERF-103
 - command PERF-121
 - how it works DIAG-336
- DROP FOREIGN KEY clause of ALTER TABLE statement SQLREF-163
- DROP INDEX DBA-86
- DROP INDEX
 - how it works DIAG-336
- DROP INDEX statement ISQL-85
- DROP PACKAGE DBA-87
- DROP PACKAGE
 - how it works DIAG-337
- DROP PRIMARY KEY clause of ALTER TABLE statement SQLREF-163
- DROP PROCEDURE
 - how it works DIAG-337
- DROP PROCEDURE statement EXECUTE IMMEDIATE statement SQLREF-272
- DROP PSEVER
 - how it works DIAG-337

DROP PSERVER statement
 EXECUTE IMMEDIATE statement
 SQLREF-272

drop referential constraint SQLREF-13

DROP statement
 description SQLREF-258
 EXECUTE IMMEDIATE statement
 SQLREF-272
 PREPARE statement SQLREF-315

DROP STATEMENT statement
 SQLREF-263

DROP SYNONYM
 how it works DIAG-337

DROP SYNONYM statement ISQL-85

DROP TABLE APP-261, DBA-57,
 DBA-86, DBA-189

DROP TABLE
 how it works DIAG-338
 possible I/O problems DIAG-169,
 DIAG-199, DIAG-224

DROP TABLE statement
 description ISQL-78
 DROP SYNONYM statement ISQL-85
 effect on stored query ISQL-82

DROP UNIQUE clause
 of ALTER TABLE statement
 SQLREF-163

DROP VIEW APP-65, DBA-86

DROP VIEW
 how it works DIAG-338

DROP VIEW statement ISQL-85

dropping
 column APP-261, DBA-189
 dbspace DBA-77
 index for a table DBA-190
 resource adapter code DBA-262
 table APP-261, DBA-72, DBA-189
 view APP-65

DRRM (Distributed Relational Resource
 Manager) OPER-160

DRRM, component overview DIAG-9

DSC (Data System Control) DBA-17,
 OPER-160, OPER-163, SYVM-143,
 SYVM-123

DSC (Data System Control)
 list of functions and subcomponents
 OPER-164

DSECTs used by the database manager
 APP-308

DSPLYDEV
 initialization options OPER-7
 initialization parameter OPER-194

DSPLYDEV initialization parameter
 SYVM-65

DSPSTATS initialization parameter
 OPER-181, SYVM-60, SYVM-54

DSQU CICS transaction
 setting default CHARNAME
 SYVM-253
 setting default DBCS SYVM-256

DTB (Dynamic Transaction Backout)
 APP-18

DTYPE column SQLREF-369

DTYPE column
 of SYSUSAGE SQLREF-405

dual copy SYVM-230

dual log OPER-181, PERF-105

dual log recovery SYVM-194, SYVM-144

dual logging DIAG-57

dual logging
 placement of logs SYVM-17,
 SYVM-17
 using SYVM-230, SYVM-170

DUALLOG initialization parameter
 DBA-137, OPER-181, SYVM-230,
 SYVM-170

dump
 CP
 TRACE CLOSE option OPER-165
 TRACE NOCLOSE option
 OPER-165
 description DIAG-278
 navigation DIAG-284
 processing DIAG-275
 specifying dump types OPER-181

DUMP
 CP
 snapshot dump OPER-164
 option of TRACE command
 OPER-161

Dump Restore Service Program (DDR)
 OPER-48

dump, minidump OPER-147

dump, storage DBSU-225

DUMPALL trace formatter option
 OPER-168

dumps
 snapshot OPER-162

DUMPTYPE initialization parameter
 OPER-181, SYVM-72, SYVM-66

DUOW (distributed unit of work)
 SQLREF-26

duplicate rows
 in fullselect SQLREF-128
 preventing SQLREF-12

duration
 date APP-59, APP-276, SQLREF-74
 labeled APP-276, SQLREF-74
 lock APP-258, PERF-95
 time APP-59, APP-276, SQLREF-75
 timestamp APP-59, APP-278,
 SQLREF-75

DVERIFY OPER-13

DVERIFY parameter SYVM-91, SYVM-78

DVERIFY parameter of SLENDD
 DIAG-267

DYNALC preprocessor parameter
 APP-123, APP-164

DYNAM compiler option
 COBOL APP-367

dynamic
 application backout DBA-122
 page allocation PERF-59
 recovery from user errors DBA-130

dynamic assign, archive OPER-47

Dynamic Backout Program (DBP) APP-18

dynamic data conversion APP-230

dynamic data conversion
 assembler APP-316
 C APP-345
 COBOL APP-362
 Fortran APP-376
 PL/I APP-389

dynamic select
 DECLARE CURSOR statement
 SQLREF-142
 FETCH statement SQLREF-142
 OPEN statement SQLREF-142

dynamic SQL SQLREF-9

dynamic SQL
 description APP-25, SQLREF-9,
 SQLREF-141
 EXECUTE IMMEDIATE statement
 SQLREF-271
 EXECUTE statement SQLREF-265
 execution SQLREF-141
 host variables SQLREF-142
 obtaining information with DESCRIBE
 SQLREF-248
 parameter markers SQLREF-142
 preparation SQLREF-141
 PREPARE statement SQLREF-314
 SQLDA SQLREF-359
 statement SQLREF-9
 use for efficiency DIAG-196
 use with range predicates DIAG-223

dynamic statement
 extended DBA-156, DBA-158
 support DBA-156, DBA-157

dynamic statements
 comparison with extended dynamic
 statements APP-240
 data conversion APP-230
 description APP-238
 extended APP-238, APP-248
 extended
 comparison with dynamic
 statements APP-240
 introduction APP-238
 relationship between APP-239
 remote unit of work considerations
 APP-249
 logical unit of work considerations
 APP-248
 SQLDA use APP-232

dynamic storage size management
 PERF-198

Dynamic Transaction Backout (DTB)
 APP-18

dynamic transaction backout program of
 the CICS subsystem DBA-122

E

EBCDIC
 mixed data SQLREF-46

editing
 PRIVATE table DBA-158
 routine DBA-161

effective use measurement
 description PERF-13

elapsed time PERF-4, PERF-15

elements of performance PERF-1

embedded data
 DATALOAD DBSU-32
 ending DBSU-164
 maximum length DBSU-160

embedded input data DBSU-159

embedding statements SQLREF-141

EMP_ACT sample table DBSU-245,
 ISQL-153, SQLREF-413

EMPLOYEE sample table DBSU-237,
ISQL-145, SQLREF-412

empty character string SQLREF-60

empty log
invalid index PERF-74

empty pages
releasing OPER-180, OPER-188

empty string SQLREF-44

enable PERF-176

enable checklist PERF-176

enable code PERF-179

enabling a DBSPACE
See recovering from DBSS errors

encoding scheme SQLREF-30

END
PF key ISQL-157
query ISQL-25
reference ISQL-106

END DECLARE SECTION APP-8

END DECLARE SECTION statement
SQLREF-264

END RESTORE response SYVM-218,
SYVM-161

ENDDATA subcommand DBSU-164

ending
INPUT ISQL-106
logical unit of work ISQL-29
online support OPER-29
operator command ISQL-106
query result
END command ISQL-25, ISQL-106
the DB2 session OPER-11

ending embedded data DBSU-164

ending logical units of work
batch applications APP-16
CICS/VSE transactions APP-17
ICCF applications APP-16

ENDLUW control parameter DBSU-117

engineering change (EC) PERF-2

ENGLISH character set (CCSID=37)
SYVM-310, SYVM-236

entering
commands ISQL-10
commands
description ISQL-10
multiple input lines ISQL-13
while viewing online help
information ISQL-16
CP commands ISQL-91
data in a table
introduction ISQL-2
your user ID and password ISQL-7

entity DBA-1

entity integrity APP-288, SQLREF-11,
SQLREF-12

entry call tracing OPER-163, OPER-191

entry point of DB2 Server for VM user
programs SYVM-83

ENTRY trace OPER-163, OPER-191

environment considerations
VM/ESA operating system SYVM-274

environments, operating OPER-v

equijoin DBA-5

equipment failures SYVM-219,
SYVM-162

ERASE
restriction SYVM-141

ERASE command ISQL-65

ERASE keyword
FORMAT command ISQL-49, ISQL-50

ERASE statement ISQL-65, ISQL-107

erasing
duplicate values in report ISQL-47
more than one stored command
ISQL-65
stored SQL statement ISQL-65,
ISQL-107
tables APP-261

errcds
See no error codes, but problem exists

error
closes cursor SQLREF-310
DELETE statement SQLREF-245
description SQLREF-325
during PUT SQLREF-324
FETCH statement SQLREF-285
INSERT statement SQLREF-302
UPDATE statement SQLREF-342

ERROR
bind parameter APP-149

error code
See SQLCODE

error codes DIAG-119

error codes
-101 (command limitation exceeded)
DIAG-120
-15000 (Alter/drop failed) DIAG-124
-204 (creator.table not found)
DIAG-121
-301 (input variable data type not
compatible with column) DIAG-121
-302 (input host variable too large)
DIAG-122
-303 (output data type not compatible)
DIAG-122
-304 (output host variable too large)
DIAG-122
-305 (indicator variable is missing)
DIAG-122
-313 (mismatch between number of
host variables) DIAG-123
-450 (storage overlay in stored
procedure server) DIAG-123
-471 (SQL call failed) DIAG-123
-901 (cannot use STORE CLOCK
value) DIAG-119
-911 (rolled back due to a deadlock)
DIAG-119
-912 (rolled back due to excessive lock
requests) DIAG-120
-913 (SQL call timeout) DIAG-124
-915 (rolled back, excessive locks for
this LUW) DIAG-120
common user-related DIAG-120
system related DIAG-119

error handling
application programs APP-197
batch and VSE/ICCF applications
DBA-170
DBS Utility application DBA-170
description APP-195
preprocessors APP-155

error messages OPER-4

error mode processing ISQL-71

ERROR option
of CREATE PACKAGE statement
SQLREF-204

ERROR preprocessor parameter APP-122,
APP-163

error recovery
See error handling

error reference information
codes DBSU-224
types DBSU-223

ERRORBYTE column SQLREF-369

ERRORBYTE column
of SYSSTRINGS SQLREF-401

errors
See also correcting typing error
Database Services Utility error
handling DBSU-223
debugging DBSU-223
multi-row operations ISQL-30
routine ISQL-71, ISQL-133
SQL statements ISQL-9

errors from VSAM DIAG-281

escalate
isolation level SQLREF-22
lock SQLREF-20

ESCALATE PERF-23

ESCALATE
counter PERF-37, PERF-100

ESCALATE counter OPER-59, SYVM-65,
SYVM-58

ESCALATE counter
uses of DIAG-176, DIAG-214

ESCALATE indicator
definition of DIAG-130

escalation SYVM-64, SYVM-58

escalation
definition of DIAG-131
description OPER-58
excessive locking DIAG-176
lock OPER-185
low lock levels DIAG-203
performance problem index DIAG-144
small NLRB parameters DIAG-215
when it is good DIAG-214

ESCAPE clause
in LIKE predicate SQLREF-87

ESCAPE keyword
in LIKE predicate SQLREF-86

ESDS
files managed by SYVM-191
space management
accounting files SYVM-191

estimating
calculating PCTINDEX DBA-235
catalog dbspace (SYSTEM.SYS0001)
SYVM-433, SYVM-344
CUREXTNT SYVM-19, SYVM-18
dbextent sizes SYVM-156, SYVM-132
dbspace size DBA-23, DBA-223
dbspace size for routines SYVM-442,
SYVM-353
dbspace sizes for stored SQL
statements SYVM-443, SYVM-354
directory space requirement
SYVM-432, SYVM-343
index size DBA-236

- estimating (*continued*)
 - internal dbspace requirements SYVM-20, SYVM-20
 - ISQL dbspace requirements SYVM-442, SYVM-353
 - length of a stored row DBA-224
 - MAXDBSPC parameter SYVM-18, SYVM-18
 - MAXEXTINT parameter SYVM-18, SYVM-18
 - MAXPOOLS parameter SYVM-18, SYVM-18
 - number of data pages in a dbspace DBA-227
 - number of header pages for dbspace DBA-226
 - size of response PERF-153
 - storage for a database SYVM-427, SYVM-341
 - storage for a table DBA-224
 - storage pool requirements SYVM-432, SYVM-344
 - storage pool size DBA-23
 - storage pool sizes SYVM-156, SYVM-132
- estimating resource usage ISQL-130
- EUC (Extended UNIX Code) SQLREF-46, SYVM-329, SYVM-256
- EUR (IBM European standard) SQLREF-50
- EUR (IBM European standard) format SQLREF-50
- EUR attribute
 - DATE option CREATE PACKAGE statement SQLREF-203
- evaluating
 - logical data design PERF-141
 - predicates APP-42
- evaluation order of operations SQLREF-78
- examining the SQLCA APP-200
- example
 - accessing a database on another processor DBA-198
 - accounting file job control (tape) SYVM-192
 - adding a column to a table DBA-65
 - adding dbextents SYVM-159
 - adding dbspaces SYVM-150
 - altering design of a table DBA-64
 - cataloging database job control SYVM-219
 - changing parameters of a dbspace DBA-74
 - changing user passwords DBA-109
 - connecting to default application server DBA-97
 - connecting under authorization ID DBA-105
 - conventions PERF-xii
 - copying tables DBA-62
 - DASD accounting file job control (SAM) SYVM-190
 - DASD accounting file job control (VSAM) SYVM-189
- example (*continued*)
 - DBS utility commands
 - creating accounting tables SYVM-260, SYVM-204
 - DBS Utility commands
 - loading accounting tables SYVM-263, SYVM-208
 - defining the directory data set SYVM-217
 - defining VM minidisks for a database SYVM-284
 - defining VSAM data sets for a database SYVM-214, SYVM-215
 - deleting dbextents SYVM-161
 - equivalent minidisk sizes on different devices SYVM-430
 - establishing a default application server DBA-97
 - estimating the number of data pages for a table DBA-229
 - field procedure SYVM-382, SYVM-302
 - generating your own database SYVM-219
 - granting access to VSE guests DBA-93
 - granting authorities DBA-93
 - initialization parameters in CMS file SYVM-89
 - merging data from multiple tables DBA-63
 - monitoring privileges DBA-96
 - moving data between dbspaces DBA-62
 - printing the HELP text DBA-147
 - reloading the HELP Text DBA-147
 - removing a dbspace DBA-77
 - removing user from application server DBA-85
 - restricting access using views DBA-106, DBA-108
 - revoking authorities DBA-94
 - running an application program under VSE/ICCF SYVM-71
 - running the DBS Utility DBA-114
 - set up a new ISQL user DBA-83
 - starting a DB2 Server for VSE & VM terminal session ISQL-3
 - starting the application server in single user mode SYVM-81, SYVM-73
 - switching application server DBA-99, DBA-105
 - synonym usage in application program development DBA-173
 - SYS0001 storage estimating formula SYVM-438, SYVM-350
 - typical security audit queries DBA-117
 - unloading the "PUBLIC"."HELPTXT" dbspace DBA-147
- exceptions, arithmetic DBSU-169
- EXCLUDE keyword (FORMAT command)
 - description ISQL-41
 - example ISQL-41
 - multiple keywords ISQL-52
 - reference ISQL-110
- excluded columns
 - including ISQL-42, ISQL-112
- excluding column from the display ISQL-41, ISQL-110
- exclusive
 - isolation level SQLREF-20
- exclusive lock
 - description APP-258, APP-259, DIAG-70, PERF-94
- EXCLUSIVE option
 - IN EXCLUSIVE MODE clause of LOCK DBSPACE statement SQLREF-306
 - of LOCK TABLE statement SQLREF-307
- EXEC
 - ARISAVES SYVM-180, SYVM-469
 - ARISDBHD DBA-264
 - ARISDBLD DBA-265
 - ARISDBMA SYVM-466
 - ARISFDEF SYVM-291
 - ARISFPKY SYVM-36
 - ARISMEX SYVM-214, SYVM-157
 - ARISPDFC SYVM-279, SYVM-471
 - authorization DBA-266
 - example ISQL-93
 - examples DBSU-121
 - invoking OPER-166
 - procedures DBSU-121
 - sample programs APP-22
 - SQLADBEX SYVM-162, SYVM-214, SYVM-157
 - SQLADBEX
 - example SYVM-159, SYVM-161
 - SQLADDBSP SYVM-146, SYVM-214, SYVM-157
 - SQLADDBSP
 - example SYVM-150
 - SQLBINS SYVM-214, SYVM-157
 - SQLBOOTS SYVM-470, SYVM-472
 - SQLCDBEX SYVM-151, SYVM-169
 - SQLCIREO DBA-258, SYVM-214, SYVM-157
 - SQLDBDEF SYVM-473, SYVM-381
 - SQLDBGEN SYVM-214, SYVM-288, SYVM-157
 - SQLDBID DBA-261
 - SQLDBINS SYVM-286, SYVM-287
 - SQLDBLD SYVM-472, SYVM-474
 - SQLGENLD PERF-183, SYVM-189, SYVM-477
 - SQLGLOB DBA-253
 - SQLINIT APP-113, DBA-97, DBA-243
 - SQLLEVEL DBA-266
 - SQLLOG SYVM-214, SYVM-232, SYVM-157
 - SQLPREP APP-114
 - SQLRMEND DBA-126, DBA-262
 - SQLSTART APP-146, DBA-250, OPER-2, PERF-184, PERF-186, SYVM-214, SYVM-157
 - SQLTRFMT OPER-166
 - STARTUP parameter SYVM-214, SYVM-157
 - syntax DBA-243, DBA-264, DBA-265, DBA-266
 - using ISQL-93

EXEC (*continued*)
 using DB2 Server for VM facility
 DBA-158
 using ISQL DBA-152

EXEC SQL
 restriction DBSU-143

EXEC trace OPER-192, OPER-193

EXEC trace
 RDS OPER-164
 RDS
 executives OPER-164
 functions and subcomponents
 OPER-164

EXECIO
 restriction SYVM-141

executable statement SQLREF-140,
 SQLREF-141

EXECUTE
 usage techniques APP-216

EXECUTE IMMEDIATE
 usage techniques APP-215

EXECUTE IMMEDIATE statement
 building statements SQLREF-141
 description SQLREF-271
 executing statements SQLREF-141
 PREPARE statement SQLREF-316

EXECUTE ON clause
 of GRANT statement SQLREF-289
 of REVOKE statement SQLREF-328

EXECUTE privilege
 automatic revocation APP-271

EXECUTE statement
 description SQLREF-265
 executing statements SQLREF-141
 PREPARE statement SQLREF-316
 SQLDA SQLREF-359
 SQLLEN value SQLREF-362
 SQLTYPE value SQLREF-362

EXECUTE statement, Extended
 SQLREF-269, SQLREF-270

executing applications
 multiple user mode APP-145
 single user mode APP-146

executing online support OPER-18

execution machine
 description SYVM-4

EXIST option
 of CREATE PACKAGE statement
 SQLREF-205

EXIST preprocessor parameter APP-123,
 APP-164

existing data
 striping PERF-205

EXISTS predicate APP-88

EXISTS predicate
 description SQLREF-83
 NOT keyword SQLREF-83

exit
 installation SYVM-339, SYVM-263

EXIT command ISQL-17, ISQL-108

exit point
 for field procedures SYVM-370,
 SYVM-291

EXIT trace OPER-163, OPER-191

exits
 abnormal end SYVM-86
 accounting SYVM-344, SYVM-268

exits (*continued*)
 cancel SYVM-365, SYVM-287
 coding your own SYVM-356,
 SYVM-279
 date SYVM-353, SYVM-276,
 SYVM-277
 time SYVM-353, SYVM-276,
 SYVM-277

exp SQLREF-7

EXPAND DIRECTORY operation
 ARIMEXBD utility SYVM-128
 SQLCDBEX EXEC SYVM-150

expanded storage PERF-166

expanded storage
 auxiliary storage PERF-43
 buffer pool PERF-85

expanding tables APP-261

EXPLAIN DBA-163

EXPLAIN
 cost table PERF-144
 database design PERF-154
 explicit and implicit PERF-143
 plan table PERF-145
 reference table PERF-147
 referential constraint PERF-148
 statement PERF-141
 structure table PERF-149

EXPLAIN column SQLREF-369

EXPLAIN option
 of CREATE PACKAGE statement
 SQLREF-203

EXPLAIN option, setting isolation level
 ISQL-88

EXPLAIN preprocessor parameter
 APP-123, APP-164

EXPLAIN statement
 description SQLREF-274

EXECUTE IMMEDIATE statement
 SQLREF-272

PREPARE statement SQLREF-315

explainable statement SQLREF-275

explanation table DBA-163

explanation table
 general description PERF-141
 using PERF-141, PERF-143

explicit
 connect DBA-99
 CONNECT DBA-89

explicit termination of LUW DIAG-18,
 DIAG-19

exposed name
 table SQLREF-66

expression
 adding APP-52
 arithmetic operators SQLREF-71,
 SQLREF-73
 column_name SQLREF-71
 concatenation operator SQLREF-72
 constant SQLREF-71
 constants used APP-53
 datetime operands SQLREF-74
 decimal operands SQLREF-73
 description APP-52, APP-53
 dividing APP-52
 expression SQLREF-71
 floating-point operands SQLREF-74
 function SQLREF-71

expression (*continued*)
 host variables APP-53
 host_variable SQLREF-71
 in a basic predicate SQLREF-79
 in a quantified predicate SQLREF-80
 in a subselect SQLREF-122
 in BETWEEN predicate SQLREF-81
 in DESCRIBE statement SQLREF-250
 in IN predicate SQLREF-84
 integer operands SQLREF-73
 labeled_duration SQLREF-71
 multiplying APP-52
 numeric SQLREF-73
 operators SQLREF-71
 precedence of operation SQLREF-78
 special_register SQLREF-71
 string SQLREF-72
 subselect SQLREF-122
 subtracting APP-52
 value SQLREF-71

EXTEND initialization parameter
 OPER-182, SYVM-72, SYVM-66

EXTEND input file commands
 See recovering from DBSS errors

Extended CLOSE statement SQLREF-178

extended DBCS support DBSU-231

Extended DECLARE CURSOR statement
 SQLREF-241, SQLREF-242

Extended DESCRIBE statement
 description SQLREF-252
 SQLDA SQLREF-359

extended dynamic SQL
 description SQLREF-9, SQLREF-10

extended dynamic statement DBA-156,
 DBA-158

extended dynamic statement
 assembler example APP-242
 comparison with dynamic statements
 APP-240
 description APP-238
 introduction APP-238
 logical unit of work considerations
 APP-248
 relationship between APP-239
 remote unit of work considerations
 APP-249

Extended EXECUTE statement
 description SQLREF-269
 SQLDA SQLREF-359

Extended FETCH statement
 description SQLREF-288
 SQLDA SQLREF-359

Extended OPEN statement
 description SQLREF-313
 SQLDA SQLREF-359

Extended PREPARE statement
 SQLREF-318, SQLREF-322

Extended PUT statement
 description SQLREF-326
 SQLDA SQLREF-359

extender, alphabetic SQLREF-35

extension
 virtual addressability PERF-79

extents, database
 SHOW DBCONFIG command
 OPER-82

- extents, database (*continued*)
 - SHOW DBEXTENT command OPER-84
- extents, database, SHOW DBEXTENT command OPER-84
- extents, database, SHOW SQLDBGEN command OPER-127
- external source member
 - including APP-141
- EXTLUWID
 - DRDA protocol DBA-113, DBA-116
- eye-catcher
 - application program SYVM-75

F

- facility
 - CICS restart resynchronization OPER-152
 - CICS/VS monitoring OPER-57
 - trace OPER-155
- failure
 - See also* recovery
 - application DBA-121
 - DASD DBA-121
 - DASD
 - damaged database SYVM-197, SYVM-147
 - damaged database and log SYVM-198, SYVM-148
 - damaged log SYVM-198, SYVM-148
 - DBS Utility processing DBA-128
 - equipment SYVM-219, SYVM-162
 - ISQL session DBA-128
 - online application DBA-127
 - preprocessor DBA-129
 - restarting the ADD DBSPACE operation SYVM-149
 - subsystem DBA-121
 - system DBA-121, SYVM-214, SYVM-157
 - user logic error DBA-121
- failure, recovery OPER-147
- failure, recovery
 - disk failures OPER-154
 - general OPER-147
- fair share
 - auditing PERF-93
 - scheduling PERF-78
- fair share auditing DIAG-22
- fair share auditing
 - finding deprived agents DIAG-22
 - interval sizes DIAG-22
 - overview DIAG-22
- fair-share auditing SYVM-66, SYVM-60
- fallback procedures PERF-2
- fast application server
 - online support shutdown OPER-30
 - shutdown OPER-15
- fast CCW translation PERF-79
- fast DB2 Server for VM shutdown SYVM-93
- fast DB2 Server for VSE shutdown SYVM-80
- fast restore DBA-137, SYVM-50

- FASTTR
 - job control option PERF-79
- fault
 - page PERF-45
- FB-512 storage devices PERF-173, SYVM-10
- FETCH
 - assignment rules SQLREF-53
 - description APP-35, DIAG-72
 - error handling for a select-list APP-210
 - format APP-35
- fetch and insert blocking APP-139, APP-174
- fetch blocking PERF-110
- fetch blocking
 - distributed database PERF-83
- FETCH statement
 - description SQLREF-284
 - dynamic select SQLREF-142
 - OPEN statement SQLREF-310
 - SQLDA SQLREF-359
 - SQLLEN value SQLREF-362
 - SQLTYPE value SQLREF-362
 - static select SQLREF-142
- FETCH statement, Extended SQLREF-288
- fetch with cursor stability DIAG-127
- field defaults, output data DBSU-179
- field procedure DBSU-49
- field procedure
 - abnormal end SYVM-372, SYVM-293
 - collating sequence APP-32
 - control blocks
 - CVD SYVM-376, SYVM-295
 - FPIB SYVM-375, SYVM-295
 - FPPL SYVM-374, SYVM-294
 - FPPVL SYVM-377, SYVM-296
 - FVD SYVM-376, SYVM-295
 - description SYVM-369, SYVM-290
 - example SYVM-382, SYVM-302
 - exit point SYVM-370, SYVM-291
 - in comparisons DBA-37
 - in LIKE predicate SQLREF-87
 - specified by FIELDPROC clause DBA-35
 - specified when defining a column DBA-31
 - using APP-279
 - using null values DBA-31
 - value descriptors SYVM-376, SYVM-295
 - when creating a table DBA-35
- field procedure information block (FPIB) SYVM-375, SYVM-295
- field procedure parameter list (FPPL) SYVM-374, SYVM-294
- field procedure parameter value list (FPPVL) SYVM-377, SYVM-296
- field procedures
 - data type considerations SYVM-371, SYVM-292
- field-decoding
 - definition SYVM-369, SYVM-290
 - input and output SYVM-381, SYVM-300
- field-definition
 - definition SYVM-369, SYVM-290

- field-definition (*continued*)
 - input and output SYVM-377, SYVM-296
- field-encoding
 - definition SYVM-369, SYVM-290
 - input and output SYVM-379, SYVM-299
- FIELDPROC
 - See also* field procedure
 - clause of ALTER TABLE statement DBA-35
 - clause of CREATE or ALTER TABLE SYVM-370, SYVM-291
 - clause of CREATE TABLE statement DBA-35
 - parameters DBA-35
 - FIELDPROC clause SYVM-372, SYVM-293
 - FIELDPROC clause
 - of ALTER TABLE statement SQLREF-161
 - of CREATE TABLE statement SQLREF-222, SQLREF-225
- file definition
 - See* FILEDEF command
- file maintenance and reporting DBA-150
- file parameter, example OPER-5
- file support for DB2 Server for VM database manager SYVM-77
- FILEDEF
 - ALT option SYVM-76
 - issued by SQLSTART SYVM-81
 - issued by SQLSTART EXEC SYVM-80
 - log archive to disk SYVM-80, SYVM-211
 - tape SYVM-74
 - FILEDEF command SYVM-76
 - FILEDEF command
 - ALT option OPER-11
 - ARIARCH OPER-10
 - ARILARC OPER-10
 - ARITRAC OPER-10
 - block size option OPER-10
 - DATALOAD DBSU-35
 - DATAUNLOAD DBSU-62
 - RELOAD DBSPACE DBSU-81
 - RELOAD PACKAGE DBSU-92
 - RELOAD TABLE DBSU-81
 - syntax and notes DBSU-249
 - UNLOAD DBSPACE DBSU-67
 - UNLOAD PACKAGE DBSU-92
 - UNLOAD TABLE DBSU-67
- files
 - CMS DBSU-8
 - CMS
 - initialization parameters SYVM-56
 - CMS commands SYVM-290
 - loading DB2 Server for VM SYVM-9
 - SQLADBEX SYVM-164
 - SQLADBEX file SYVM-164
 - SQLADBSF SYVM-147
 - SQLDBN SYVM-291, SYVM-300
 - SQLFDEF SYVM-163, SYVM-290, SYVM-300
- files, CMS initialization options OPER-5
- filter factor PERF-130

- filtered
 - database access OPER-182
 - log recovery OPER-182
- filtered log recovery DBA-130
- filtered log recovery
 - See also* recovering from DBSS errors
 - referential integrity DIAG-261
- final totals ISQL-48, ISQL-111
- finding deprived agents DIAG-22
- finding names
 - column in table ISQL-76
 - table ISQL-75
- FINDSYS
 - diagnose instruction SYVM-82
- FIPS APP-133, APP-168
- first failure data capture DIAG-88
- First Failure Data Capture support OPER-147
- FIRSTKEYCOUNT
 - use in determining index selectivity DIAG-153
- FIRSTKEYCOUNT column SQLREF-369
- FIRSTKEYCOUNT column
 - of SYSINDEXES SQLREF-389
- FIRSTROW column SQLREF-369
- FIRSTROW column
 - of SYSACCESS SQLREF-374
- FIXED data type DBSU-151, DBSU-173
- fixed-block architecture devices SYVM-6
- fixed-block architecture devices
 - dbextent capacity SYVM-428, SYVM-341
 - log capacity SYVM-428, SYVM-341
- fixed-length
 - character string SQLREF-44
 - graphic string SQLREF-47
 - rows DBA-29
- Flagger
 - description APP-133, APP-168
 - SQLFLAG APP-167
- FLDLLENGTH column SQLREF-369
- FLDLLENGTH column
 - of SYSFIELDS SQLREF-387
- FLDPROC column SQLREF-369
- FLDPROC column
 - of SYSCOLUMNS SQLREF-383
 - of SYSKEYCOLS SQLREF-391
- FLDTYPE column SQLREF-369
- FLDTYPE column
 - of SYSFIELDS SQLREF-386
- FLOAT
 - data type SQLREF-159, SQLREF-223
 - function SQLREF-102
- FLOAT data type
 - assembler APP-317
 - C APP-346
 - COBOL APP-364
 - Fortran APP-378
 - PL/I APP-391
- FLOAT data type of column DBA-32
- FLOAT or DOUBLE PRECISION data type DBSU-151, DBSU-174
- FLOAT or REAL data type DBSU-151, DBSU-174
- floating point
 - unloaded data DBSU-189
- floating point arithmetic operation DBA-180
- floating-point
 - arithmetic SQLREF-74
 - constant SQLREF-60
 - number SQLREF-47
 - precision SQLREF-47
- fold file
 - distributed database PERF-83
- folding SQLREF-36
- folding rules
 - coded character set identifier (CCSID) SYVM-332, SYVM-259
 - SBCS character set SYVM-305, SYVM-231
 - TRANSLATE scalar function SYVM-308, SYVM-234
- FOR BIT DATA clause
 - of ALTER TABLE statement SQLREF-159
 - of CREATE TABLE statement SQLREF-224
- FOR clause
 - of CREATE SYNONYM statement SQLREF-219
 - of EXPLAIN statement SQLREF-275
 - of Extended PREPARE statement SQLREF-319
 - of UPDATE STATISTICS statement SQLREF-345
- FOR DBSPACE clause
 - of UPDATE STATISTICS statement SQLREF-345
- FOR MIXED DATA clause
 - of ALTER TABLE statement SQLREF-159
 - of CREATE TABLE statement SQLREF-224
- FOR SBCS DATA clause
 - of ALTER TABLE statement SQLREF-159
 - of CREATE TABLE statement SQLREF-224
- FOR TABLE clause
 - of UPDATE STATISTICS statement SQLREF-345
- FOR UPDATE OF clause
 - of DELETE statement SQLREF-247
 - of select-statement SQLREF-134
- FOR update-clause APP-32
- for_fetch_only clause
 - select-statement SQLREF-134
- for_read_only clause
 - select-statement SQLREF-134
- FORCE DBA-100, DBA-135, SYVM-114, SYVM-98
- FORCE operator command
 - COMMIT option OPER-53
 - DISABLE option OPER-53
 - effect on application programs OPER-53
 - forcing users to end work OPER-51
 - ROLLBACK option OPER-53
 - syntax OPER-52
 - VSE guest sharing OPER-53, OPER-67
- FORCE RMTUSER operator command
 - forcing remote users to end work OPER-53
 - syntax OPER-54
- forceable agents OPER-67
- forcing
 - a checkpoint PERF-64
 - DB2 Server for VSE remote user OPER-53
 - in-doubt logical units of work OPER-153
 - user OPER-51
- foreign key APP-290
- foreign key
 - activating ISQL-81
 - activating and deactivating SQLREF-17
 - adding ISQL-81
 - CREATE TABLE DBA-39
 - creating ISQL-80
 - creating a referential constraint ISQL-80
 - deactivating ISQL-81
 - description DBA-7, SQLREF-13
 - multiple SQLREF-13
 - planning for DBA-7
- FOREIGN KEY clause
 - of ALTER TABLE statement SQLREF-162
 - of CREATE TABLE statement SQLREF-225
- format
 - &dbsu list output DBSU-99
 - data passed to a field procedure (FPPVL) SYVM-377, SYVM-296
 - default output data field DBSU-180
 - FPIB SYVM-376, SYVM-295
 - local date DBSU-150, DBSU-172
 - local time DBSU-150, DBSU-173
 - value descriptors (CVDs) SYVM-376, SYVM-296
- FORMAT DBA-156, ISQL-40, ISQL-55, ISQL-109
- FORMAT
 - restriction SYVM-141
- FORMAT control parameter DBSU-116
- format information for a display
 - changed because of table change ISQL-82
 - saving ISQL-63, ISQL-64
 - stored SQL statement ISQL-65
 - storing ISQL-61, ISQL-64
- formatting
 - database OPER-188
 - database minidisks SYVM-290
 - report from a query result ISQL-46, ISQL-55, ISQL-109
 - trace output OPER-166, OPER-168
- forms for reporting a DB2 Server for VSE & VM problem DIAG-106
- forms for reporting a DB2 Server for VSE & VM problem
 - abnormal termination DIAG-106
 - documentation problem DIAG-117
 - incorrect or missing output DIAG-114
 - message DIAG-108
 - NO RESPONSE DIAG-111

forms for reporting a DB2 Server for VSE & VM problem (*continued*)
 output missing or incorrect DIAG-114
 SLOW RESPONSE DIAG-113

Fortran APP-375

Fortran
 application program
 BEGIN DECLARE SECTION
 statement SQLREF-171
 host variable SQLREF-68,
 SQLREF-271
 INCLUDE SQLCA SQLREF-358
 INCLUDE statement SQLREF-298
 PREPARE statement SQLREF-314
 SQLCA SQLREF-353
 varying-length string variables
 SQLREF-44

continuation of SQL statements
 APP-370

data types APP-378

declaring host variables APP-371

embedding SQL statements APP-373

embedding SQL statements
 example APP-11

long character strings APP-373

preprocessor
 restrictions APP-377

preprocessor parameter APP-118

sample program APP-370

FORTRAN
 release level SYVM-3, SYVM-6

FORWARD command
 description ISQL-20
 PF key ISQL-157
 reference ISQL-116

FPEXITPARM column SQLREF-369

FPEXITPARM column
 of SYSFPARMS SQLREF-387

FPEXITPARML column SQLREF-369

FPEXITPARML column
 of SYSFIELDS SQLREF-387

FPIB (field procedure information block)
 SYVM-375, SYVM-376, SYVM-295

FPNAME column SQLREF-369

FPNAME column
 of SYSFIELDS SQLREF-387
 of SYSFPARMS SQLREF-387

FPPARMLIST column SQLREF-369

FPPARMLIST column
 of SYSFIELDS SQLREF-387

FPPL (field procedure parameter list)
 SYVM-374, SYVM-294

FPPVL (field procedure parameter value list)
 SYVM-374, SYVM-377, SYVM-294,
 SYVM-296

FPWORKAREA column SQLREF-369

FPWORKAREA column
 of SYSFIELDS SQLREF-387

fragment of syntax
 in syntax diagrams APP-xii, DBA-xvi,
 DBSU-xvi, DIAG-xiii, ISQL-xiv,
 OPER-xi, PERF-xi, SQLREF-5,
 SYVM-xiv, SYVM-xiv

fragmentation DIAG-54

fragmentation
 index PERF-73

fragmented index DIAG-194

free classes DIAG-45

free space
 for index entries DBA-48
 in a dbspace DBA-24
 lowering DIAG-158
 use to avoid DBSPACE scans
 DIAG-171

free space management DIAG-44

free space management
 free classes DIAG-45

free space, dbspace OPER-86

freeing log space DIAG-60

FREEMPT column SQLREF-369,
 SYVM-154, SYVM-130

FREEMPT column
 of SYSDBSPACES SQLREF-385
 SYSDBSPACES SYVM-154, SYVM-130

FRENCH character set SYVM-311,
 SYVM-237

FREQ1PCT column SQLREF-369

FREQ1PCT column
 of SYSCOLSTATS SQLREF-380

FREQ1VAL column SQLREF-369

FREQ1VAL column
 of SYSCOLSTATS SQLREF-380

FREQ2PCT column SQLREF-369

FREQ2PCT column
 of SYSCOLSTATS SQLREF-380

FREQ2VAL column SQLREF-369

FREQ2VAL column
 of SYSCOLSTATS SQLREF-380

FROM
 correlation name APP-81
 description APP-30
 joins APP-66
 PREPARE statement APP-235

FROM clause
 of DELETE statement SQLREF-244
 of Extended PUT statement
 SQLREF-326
 of PREPARE statement SQLREF-314
 of PUT statement SQLREF-323
 of REVOKE statement SQLREF-328,
 SQLREF-331, SQLREF-332
 of SELECT INTO statement
 SQLREF-337
 of subselect SQLREF-121,
 SQLREF-124

FROM NULL clause
 of Extended PREPARE statement
 SQLREF-319

FSERASE macro
 restriction SYVM-141

FSWRITE macro
 restriction SYVM-141

full &part. dump, specifying OPER-181

full qualification DBSU-111

FULLKEYCOUNT
 use in determining index selectivity
 DIAG-153
 use to find hot keys DIAG-183

FULLKEYCOUNT column SQLREF-369

FULLKEYCOUNT column
 of SYSINDEXES SQLREF-389

FULLSCREEN ISQL-4

fullselect
 description APP-27, SQLREF-128

fullselect (*continued*)
 in parentheses
 ISO-ANS SQL(89) equivalent term
 SQLREF-424
 ISO-ANS SQL(89) equivalent term
 SQLREF-424
 select-statement SQLREF-133

function SQLREF-96

function
 column
 AVG SQLREF-91
 COUNT SQLREF-92
 description SQLREF-91
 MAX SQLREF-93
 MIN SQLREF-94
 SUM SQLREF-95
 DESCRIBE statement SQLREF-249
 description SQLREF-91
 nesting SQLREF-96
 RETRIEVE DBA-60

scalar
 CHAR SQLREF-96
 DATE SQLREF-98
 DAY SQLREF-99
 DAYS SQLREF-100
 DECIMAL SQLREF-101
 description SQLREF-96
 DIGITS SQLREF-101
 FLOAT SQLREF-102
 HEX SQLREF-103
 HOUR SQLREF-104
 INTEGER SQLREF-104
 LENGTH SQLREF-105
 MICROSECOND SQLREF-106
 MINUTE SQLREF-106
 MONTH SQLREF-107
 SECOND SQLREF-107
 STRIP SQLREF-108
 SUBSTR SQLREF-110
 TIME SQLREF-112
 TIMESTAMP SQLREF-113
 TRANSLATE SQLREF-115
 VALUE SQLREF-117
 VARGRAPHIC SQLREF-118
 YEAR SQLREF-120

functional deviations DIAG-127

functional deviations
 fetch with cursor stability DIAG-127
 lockout with cursor stability
 DIAG-127

functional problems, diagnosis DIAG-119

functional problems, diagnosis
 system-related error codes DIAG-119

functions
 used in grouping APP-71

FVD (field value descriptor) SYVM-374,
 SYVM-376, SYVM-294, SYVM-295

G

GCBE abend code DBA-128

GEN trace OPER-191

general file support SYVM-77

general recovery OPER-147

general rules for naming data objects
 APP-25

generating a database SYVM-13,
 SYVM-13

- generating a database
 - additional database machines SYVM-265
 - example job control SYVM-219
 - planning SYVM-13, SYVM-13
- generating agent structures OPER-184
- generation/loading of test data DBA-162
- generator tracing
 - access generator OPER-164
 - DBSS subsystem OPER-191
 - statement generator OPER-164, OPER-192
- GERMAN character set SYVM-312, SYVM-238
- GLOBAL resource SYVM-56
- glossary
 - performance index headers DIAG-130
 - performance indicator terms DIAG-130
 - performance terms DIAG-131
- GO TO clause
 - See also* GOTO clause
 - of WHENEVER statement SQLREF-347
- GOTO clause
 - of WHENEVER statement SQLREF-347
- grant
 - authorities DIAG-327
 - run privileges (Authorization) DIAG-328
 - table privileges (Authorization) DIAG-327
- GRANT DBA-92, DBA-95, ISQL-83
- GRANT
 - exclusive locking on REVOKE DIAG-181
 - performance problem index DIAG-137
- GRANT option
 - description APP-270
- grant privileges
 - table ISQL-83
- GRANT SCHEDULE DBA-91
- GRANT statement
 - EXECUTE IMMEDIATE statement SQLREF-272
 - PREPARE statement SQLREF-315
 - used to grant
 - Package Privileges SQLREF-289, SQLREF-290
 - System Authorities SQLREF-291, SQLREF-293
 - Table Privileges SQLREF-294, SQLREF-296
- GRANTEE column SQLREF-369
- GRANTEE column
 - of SYSCOLAUTH SQLREF-379
 - of SYSPROGAUTH SQLREF-396
 - of SYSTABAUTH SQLREF-403
- GRANTEETYPE column SQLREF-369
- GRANTEETYPE column
 - of SYSTABAUTH SQLREF-403
- granting
 - authorities APP-268
 - authorities
 - already owned APP-269
 - authority DBA-92, DBA-93
- granting (*continued*)
 - privilege DBA-95
 - remote user DBA-93
- GRANTOR column SQLREF-369
- GRANTOR column
 - of SYSCOLAUTH SQLREF-379
 - of SYSPROGAUTH SQLREF-396
 - of SYSTABAUTH SQLREF-403
- graph
 - SHOW LOCK GRAPH command OPER-98
 - SHOW LOCK GRAPH example OPER-102, OPER-103
- GRAPHIC
 - choosing rather than VARGRAPHIC DBA-34
 - data type SQLREF-159, SQLREF-224
 - in column definition DBA-33
- graphic constants
 - PL/I formats APP-58
 - SQL format APP-58
- GRAPHIC data type DBSU-154, DBSU-172
- GRAPHIC data type
 - assembler APP-317
 - C APP-346
 - COBOL APP-365
 - Fortran APP-378
 - PL/I APP-391
- Graphic preprocessor parameter APP-124, APP-165
- graphic string
 - constant
 - support SQLREF-62
 - description SQLREF-47
 - fixed-length SQLREF-47
 - host variable SQLREF-47
- GROUP BY clause
 - comparison rules SQLREF-53
 - correlated subquery considerations APP-83
 - description APP-71
 - maximum number of columns SQLREF-350
 - maximum total length of columns SQLREF-350
 - of subselect SQLREF-121, SQLREF-125
 - results with subselect SQLREF-123
 - subqueries APP-80
- GROUP option of FORMAT command
 - multiple keywords ISQL-52
 - outline report ISQL-47
 - reference ISQL-111
 - total ISQL-49
- group query APP-30
- group query
 - See also* group-by-clause
 - See* group-by-clause APP-30
- group-by-clause
 - description APP-30
- grouped
 - table
 - DB2 Server for VSE & VM equivalent term SQLREF-423
- grouped (*continued*)
 - view
 - DB2 Server for VSE & VM equivalent term SQLREF-423
- grouping
 - feature APP-71
 - subtotal ISQL-49, ISQL-111
- grouping column
 - DB2 Server for VSE & VM equivalent term SQLREF-423
 - identified in GROUP BY SQLREF-125
- grouping queries
 - VARCHAR APP-72
 - VARGRAPHIC APP-72
- guest sharing
 - accessing and operator responsibilities SYVM-97, SYVM-81
 - concurrency PERF-91
 - DBNAME directory SYVM-97, SYVM-81
 - distributed database PERF-81
 - starting SYVM-97, SYVM-81
 - VM/ESA features supported SYVM-1
- guest sharing, VSE DBA-201, OPER-v, OPER-17
- guidelines
 - cursor stability isolation level ISQL-87
 - repeatable read isolation level ISQL-89
 - tuning PERF-1
 - uncommitted read isolation level ISQL-87

H

- halting the application server
 - description OPER-11
 - online support OPER-29
- handling of agents DIAG-19
- handshaking
 - DRDA PERF-109
- hardcopy output of HELP text
 - using DBS Utility DBA-147
 - using ISQL DBA-148
- hardware
 - problems PERF-2
 - upgrading PERF-2
- hardware failure recovery OPER-154
- hardware requirements SYVM-5, SYVM-8
- hashing
 - key, possible lock wait problems DIAG-145
- HAVING clause
 - correlated subqueries APP-83
 - description APP-31, APP-73
 - maximum number of predicts SQLREF-350
 - of subselect SQLREF-121, SQLREF-126
 - results with subselect SQLREF-123
 - subqueries APP-77, APP-80
- header page
 - description PERF-60
 - number PERF-60
 - proportion to other pages PERF-61

header page in a dbspace DBA-24, DBA-226

header pages APP-256

header pages
SYS0001 SYVM-438, SYVM-349

heading for column
See name, column

HELP
alternate language ISQL-16, ISQL-58
command
isolation level setting ISQL-88
information viewing
setting isolation level ISQL-88
isolation level setting ISQL-88
online ISQL-16
PF keys ISQL-157
reference ISQL-117
typing command ISQL-16

help text
installation prompt SYVM-280

Help text
multiple language SYVM-306, SYVM-232

HELP text
adding a topic DBA-143
CMS files SYVM-335
copyright notice DBA-147
creating your own tables DBA-144
dbspace DBA-167
enlarging the HELPTEXT dbspace DBA-145
in alternate languages DBA-139
loading
SQLDBINS EXEC SYVM-298
modification DBA-139
moving to another dbspace DBA-147
national language SYVM-332, SYVM-337, SYVM-259
printing the text DBA-147
service disk storage SYVM-6
table DBA-141

HELPTEXT dbspace SYVM-19, SYVM-19

heuristic decision SYVM-329

heuristic decisions
in-doubt LUW OPER-87
in-doubt LUWs OPER-63

HEX
function SQLREF-103
function
hexadecimal SQLREF-103

hexadecimal constant SQLREF-60

hexadecimal constants
within expressions APP-57

hexadecimal values of the sample character sets SYVM-308, SYVM-234

hiding bad columns DIAG-153

hierarchy of locks PERF-94

high CPU usage
bad statistics DIAG-151, DIAG-187
CMS work unit support DIAG-162
CREATE INDEX DIAG-166
DBSPACE scan DIAG-169
DRDA protocol used to access a Like-database DIAG-174
fragmented index DIAG-194
in one DB machine DIAG-216
index disqualification DIAG-189

high CPU usage (*continued*)
index maintenance DIAG-192
indicator, definition of DIAG-130
inefficient search DIAG-195
inefficient SELECT list DIAG-198
insufficient indexing DIAG-198
invalid entity DIAG-199
invalid index DIAG-199
joins DIAG-232
large DBSPACE DIAG-199
large sort DIAG-166
missing search condition DIAG-208
nonunique key prefix DIAG-235
old package DIAG-217
performance problem index DIAG-141
possible problem DIAG-212
range predicate DIAG-222
small buffer DIAG-157
small CHKINTVL DIAG-160
unclustered index DIAG-193, DIAG-210

high I/O
bad statistics DIAG-151, DIAG-187
causing high CPU usage DIAG-212
CREATE INDEX DIAG-166
DBSPACE scans DIAG-169, DIAG-200
fragmented index DIAG-194
index disqualification DIAG-189
index maintenance DIAG-192
inefficient search DIAG-195
insufficient indexing DIAG-198
joins DIAG-232
large DBSPACE DIAG-199
large sort DIAG-166
missing search condition DIAG-208
nonunique key prefix DIAG-235
old package DIAG-217
performance problem index DIAG-143
range predicate DIAG-222
small buffer DIAG-157
small CHKINTVL DIAG-160
too many agents DIAG-230
unclustered index DIAG-193, DIAG-210
UPDATE STATISTICS DIAG-234
utilization
indicator, definition of DIAG-130
performance problem index DIAG-143

high I/O utilization
possible problems DIAG-185, DIAG-186

high selectivity, false sense of DIAG-152

high-level-language program DBA-149

HIGH2KEY column SQLREF-369

HIGH2KEY column
of SYSCOLUMNS SQLREF-382

highlighting
conventions DBA-xi
text DBSU-xi

HIGHSTOR PERF-27

history area SYVM-235, SYVM-173

hit ratio
deadlock PERF-23
description PERF-7, PERF-13
directory buffer PERF-24
local buffer PERF-24

hit ratio (*continued*)
waitlock PERF-24

HOLD command
description ISQL-36
PF9 ISQL-157
reference ISQL-118

hold file
distributed database PERF-83

host identifier SQLREF-36, SQLREF-37

host language
comments SQLREF-36
description APP-4

host structure APP-312, APP-332, APP-354, APP-371, APP-383

host structure
COBOL APP-357
description APP-55, SQLREF-69
in FETCH statement SQLREF-284
in INSERT statement SQLREF-299
in OPEN statement SQLREF-308
in PUT statement SQLREF-323
in SELECT INTO statement SQLREF-337
indicator array SQLREF-69

host variable
assembler APP-315
CCSID
application requester/server SQLREF-32
character string SQLREF-44
declared in assembler APP-312
declared in C APP-332, APP-337, APP-386
declared in COBOL APP-354
declared in Fortran APP-371
declared in PL/I APP-383
description APP-55, SQLREF-68
dynamically defined statements APP-235
embedded statements SQLREF-141
Fortran APP-374
function parameters
used in C APP-339
host_identifier SQLREF-68
in BEGIN DECLARE SECTION statement SQLREF-170
in DECLARE CURSOR statement SQLREF-238
in END DECLARE SECTION statement SQLREF-264
in syntax diagrams APP-ix, DBA-xiii, DBSU-xiii, DIAG-xi, ISQL-xii, OPER-ix, PERF-ix, SQLREF-2, SYVM-xi, SYVM-xi
INDICATOR keyword SQLREF-68
indicator variable SQLREF-68
INTO clauses APP-39
length attribute SQLREF-79
main variable SQLREF-68
maximum number in an SQL statement SQLREF-350
maximum number of declarations in a precompiled program SQLREF-350
naming convention APP-25
null value SQLREF-68
nulls APP-59
numeric SQLREF-48

- host variable *(continued)*
 - parameter markers SQLREF-68
 - PL/I APP-386
 - possible path selection problems
DIAG-222
 - restriction on use in CREATE VIEW
APP-63
 - restriction on use in REVOKE
APP-270
 - search conditions APP-53
 - statement preparation SQLREF-142
 - substitution for parameter markers
SQLREF-265
 - truncation APP-59
 - used in a program APP-55
- host variable followed by an indicator variable
 - ISO-ANS SQL(89) equivalent term
SQLREF-424
- host_identifier
 - length limitation SQLREF-349
- host_label
 - in WHENEVER statement
SQLREF-347
- host_variable
 - description SQLREF-39
 - in CREATE PACKAGE statement
SQLREF-202, SQLREF-207
 - in EXECUTE IMMEDIATE statement
SQLREF-271
 - in EXECUTE statement SQLREF-265
 - in Extended PUT statement
SQLREF-326
 - in FETCH statement SQLREF-284
 - in INSERT statement SQLREF-299
 - in LIKE predicate SQLREF-86
 - in OPEN statement SQLREF-308
 - in PREPARE statement SQLREF-314
 - in PUT statement SQLREF-323
 - in SELECT INTO statement
SQLREF-337
 - in SELECT statement SQLREF-338
- host_variable_list
 - description SQLREF-39, SQLREF-268
 - in EXECUTE statement SQLREF-265
 - in FETCH statement SQLREF-284
 - in INSERT statement SQLREF-299
 - in OPEN statement SQLREF-308,
SQLREF-309
 - in PUT statement SQLREF-323
 - in SELECT INTO statement
SQLREF-337
- host_variable_structure
 - in FETCH statement SQLREF-284
- host_variable-list
 - in IN predicate SQLREF-84
- host-program variable
 - See host variable
- host-variable SQLREF-253, SQLREF-255
- hot spot
 - in catalog tables DIAG-179
 - in user tables DIAG-183
- HOUR
 - function SQLREF-104
 - labeled duration SQLREF-71
- HOURS
 - labeled duration SQLREF-71
- hypothetical change to data DBA-191
- I**
- I/O
 - capacity exceeded DIAG-185
 - cost PERF-140
 - counter PERF-16
 - DASD balancing PERF-75
 - DASD I/O as a resource PERF-10
 - DASD I/O system PERF-85
 - fast CCW translation PERF-79
 - general consideration PERF-77
 - in DBSS DIAG-47
 - index on performance problems
DIAG-143
 - not balanced DIAG-186
 - reducing rate DIAG-187
- IBLOCK preprocessor parameter APP-120
- IBM DB2 for VM Control Center PERF-9
- IBM European standard
 - See EUR (IBM European standard)
- IBM USA standard (USA)
 - See USA (IBM USA standard)
- ICCF applications, modules required
APP-179
- ICCF program termination APP-16
- ICREATOR column SQLREF-369
- ICREATOR column
 - of SYSINDEXES SQLREF-388
- IDCAMS
 - backup PERF-50
 - dataset location PERF-20
- IDCAMS program SYVM-133, SYVM-135
- IDCAMS program
 - See VSAM
- identification statements for database
 - data sets SYVM-217
- IDENTIFIED BY clause
 - of CONNECT statement SQLREF-187,
SQLREF-193
 - of GRANT statement SQLREF-291,
SQLREF-292
- identifier
 - blank DBSU-111
 - delimited SQLREF-37
 - description APP-25, SQLREF-36
 - host SQLREF-37
 - logical unit of work OPER-52
 - long APP-68, SQLREF-37
 - lowercase letter DBSU-110
 - ordinary SQLREF-37
 - parameter OPER-186
 - reserved words DBSU-111
 - short SQLREF-37
 - special character DBSU-111
- identifiers
 - national language SYVM-334,
SYVM-261
- identifying
 - self DBSU-20
- IGNORE command
 - example ISQL-14
 - SQL line ISQL-35
 - usage ISQL-14
- IID column SQLREF-369
- IID column
 - of SYSINDEXES SQLREF-388
- immediate application server
 - online support shutdown OPER-30
 - shutdown OPER-15
- immediate DB2 Server for VM shutdown
SYVM-93
- immediate DB2 Server for VSE shutdown
SYVM-80
- IMMEDIATE keyword
 - of EXECUTE IMMEDIATE statement
SQLREF-271
- implicit
 - connect APP-113, DBA-97
 - CONNECT DBA-89
 - CONNECT support DBA-103
 - connection APP-153
 - revocation of privileges APP-271
- implicit CONNECT support SYVM-104,
SYVM-88
- implicit termination of LUW DIAG-18,
DIAG-19
- improvement process
 - performance PERF-2
- improving performance DBSU-227
- improving query performance ISQL-85
- IN clause
 - of CREATE TABLE statement
SQLREF-227
 - of DROP STATEMENT statement
SQLREF-263
 - of Extended DECLARE CURSOR
statement SQLREF-241
 - of Extended EXECUTE statement
SQLREF-269
 - of Extended PREPARE statement
SQLREF-319
- IN EXCLUSIVE MODE clause
 - description SQLREF-306
 - LOCK DBSPACE statement
SQLREF-306
 - LOCK TABLE statement SQLREF-307
- IN predicate APP-79
- IN predicate
 - description SQLREF-84
 - instead of OR DIAG-196
 - NOT keyword SQLREF-84
 - use in place of OR DIAG-190
- IN SHARE MODE clause
 - LOCK DBSPACE statement
SQLREF-306
 - LOCK TABLE statement SQLREF-307
- IN_TRAY sample table DBSU-247,
ISQL-155, SQLREF-415
- in-doubt logical units of work SYVM-109,
SYVM-112, SYVM-114, SYVM-93,
SYVM-96, SYVM-98
- in-doubt logical units of work
 - definition OPER-152
 - description OPER-67
- in-doubt LUW OPER-87
- in-doubt LUWs OPER-63
- in-progress command, canceling ISQL-15
- inactive
 - constraint APP-297
 - removing referential constraints
APP-299
 - table APP-297
- INACTIVE column SQLREF-369

INACTIVE column
of SYSCATALOG SQLREF-377

inactive key
description DBA-66
implicit DBA-66

inactive table
description DBA-66

INAME column SQLREF-369

INAME column
of SYSINDEXES SQLREF-388
of SYSKEYS SQLREF-392

INCCSID column SQLREF-369

INCCSID column
of SYSSTRINGS SQLREF-401

INCLUDE APP-141, APP-177, DBA-165

INCLUDE
assembler APP-314
C APP-331
COBOL APP-359
Fortran APP-375
PL/I APP-383

INCLUDE keyword (FORMAT command)
ISQL-42, ISQL-112

INCLUDE SQLCA
assembler language APP-315
C APP-344
COBOL APP-361
Fortran APP-375
language specifics SQLREF-357
PL/I APP-388
pseudocode APP-11, APP-196

INCLUDE SQLDA
assembler language APP-316
C APP-345
language specifics SQLREF-364
PL/I APP-389
pseudocode APP-219

INCLUDE statement
description SQLREF-297
SQLCA SQLREF-353
SQLDA SQLREF-359

including
CICS/VSE procedures APP-179
external source members APP-141,
APP-177
extra linkage modules APP-179
input from Source Statement Library
APP-177
relocatable modules APP-178
secondary input from VM
CMS file APP-141

including excluded columns in a display
ISQL-42, ISQL-112

incompatibilities, release to release
2.1 and 1.3.5 SQLREF-428,
SQLREF-430, SYVM-482,
SYVM-484, SYVM-390, SYVM-392
2.2 and 2.1 SQLREF-430,
SQLREF-433, SYVM-484,
SYVM-487, SYVM-392, SYVM-395
3.1 and 2.2 SQLREF-433,
SQLREF-444, SYVM-487,
SYVM-497, SYVM-395, SYVM-405
3.2 and 3.1 SYVM-497, SYVM-504,
SYVM-405, SYVM-411
3.3 and 3.2 (VM only) SQLREF-444,
SQLREF-450, SYVM-504, SYVM-510

incompatibilities, release to release
(continued)
3.4 and 3.2 (VSE only) SQLREF-454,
SQLREF-463, SYVM-411, SYVM-420
3.4 and 3.3 (VM only) SQLREF-450,
SQLREF-454, SYVM-510, SYVM-514
3.5 and 3.4 SQLREF-463, SYVM-514,
SYVM-420
5.1 and 3.5 SQLREF-464, SYVM-515,
SYVM-420
6.1 and 5.1 SQLREF-464, SYVM-515,
SYVM-421
7.1 and 6.1 SQLREF-465, SYVM-516,
SYVM-421
7.2 and 7.1 SQLREF-465, SYVM-516,
SYVM-421
7.3 and 7.2 SYVM-517, SYVM-421
description SQLREF-427, SYVM-481,
SYVM-389

inconsistency
because of cursor stability APP-135,
APP-171
cursor stability inconsistencies
APP-135, APP-171

inconsistent
data APP-18
state APP-18, APP-196

inconsistent directory DIAG-267

inconsistent directory
checking for DIAG-267
recovery actions DIAG-267

incorrect or missing output DIAG-98

increasing log size SYVM-171

increasing the size of the logs SYVM-231

independent table
definition SQLREF-13

index
access path PERF-117
activating and deactivating
SQLREF-17
adding DBA-190
avoiding on frequently updated
columns DBA-53
catalog information PERF-40
causes of invalid PERF-75
cluster ratio PERF-41
clustered PERF-41, PERF-66
CLUSTERED DBA-48
clustered versus not clustered
DIAG-53
clustering DIAG-52, PERF-41,
PERF-67
clustering
default versus clustering PERF-67
unclustered PERF-70
CLUSTERING DBA-48, DBA-49,
DBA-52
clustering strategy PERF-67
clustering to avoid I/O's DIAG-194
creating APP-261, DBA-17, DBA-47,
PERF-119
DBSS tracing OPER-163
default strategy PERF-67
description DBA-47, SQLREF-17
disadvantages PERF-121
disqualification DIAG-189
dropping DBA-190, DIAG-146

index (continued)
duplicate key value DBA-53
estimating size of DBA-236
ever increasing PERF-66
foreign key PERF-122
fragmentation PERF-73
fragmented DIAG-194
free space
catalog table PERF-41
fragmentation PERF-73
fully matched PERF-124
index-only access PERF-119
invalid DBSU-138, DBSU-229,
DIAG-52, PERF-74, SYVM-32,
SYVM-40
key SQLREF-11
key
column order DBA-47, DBA-48
considerations DBA-47, DBA-51
location in dbspaces DBA-20,
SYVM-145, SYVM-125
lock contention PERF-96
locking DIAG-75
lockmode PERF-41
longest key SQLREF-350
maintenance DBA-48
maintenance, possible I/O problems
DIAG-192
management DIAG-50
management, fragmentation DIAG-54
management, space management
DIAG-51
maximum byte count SQLREF-350
maximum number on a table
SQLREF-350
migration considerations DBA-53
naming convention APP-25
no longer clustered DIAG-193
nonunique DBA-53
nonunique key prefix problems
DIAG-235
on performance problems DIAG-135
on performance problems
agent related DIAG-140
data authorization DIAG-137
data definition DIAG-137
data manipulation DIAG-137
data utilities DIAG-138
general DIAG-135
high CPU usage DIAG-141
I/O related DIAG-143
locking related DIAG-144
low CPU utilization DIAG-141
recovery control DIAG-139
special case DIAG-145
storage related DIAG-144
on problems by performance
symptom DIAG-139
page
description PERF-60
free space PERF-62
proportion to other pages PERF-61
reserved in a dbspace PERF-40
running out PERF-66
pages in a dbspace DBA-26, DBA-235
pages, possible lock wait problems
DIAG-145

- index (*continued*)
 - PCTFREE PERF-73
 - PCTFREE consideration DBA-48
 - performance considerations DBA-52
 - primary key DBA-39
 - re-creating DIAG-192, DIAG-195
 - re-design to avoid hot keys DIAG-184
 - recommendation PERF-120
 - release level PERF-42
 - reorganization DBSU-138, OPER-188
 - reorganize PERF-73
 - reorganize
 - invalid PERF-75
 - REORGANIZE INDEX DIAG-195
 - reorganizing on catalog tables DBA-77
 - restriction for view APP-61, DBA-45
 - retrieving catalog information about DBA-54
 - scan PERF-118
 - scan
 - minimum lock level PERF-96
 - show invalid indexes OPER-90
 - sorting PERF-120
 - structure, basic DIAG-50
 - transient DIAG-52, PERF-74
 - unclustered
 - identifying PERF-68
 - unique
 - access path type PERF-120
 - creating DBA-47
 - general description DBA-48
 - row level locking PERF-96
 - when to use DBA-52
 - with key matching predicate PERF-120
- INDEX clause
 - of DROP statement SQLREF-258
 - of GRANT statement SQLREF-294, SQLREF-295
 - of REVOKE statement SQLREF-331, SQLREF-332
- index eligible predicate
 - definition of DIAG-131
 - use of DIAG-190
- index key
 - CREATE INDEX statement SQLREF-199
 - description DBA-47
 - prefix, nonunique problems DIAG-235
- INDEX trace OPER-163, OPER-191
- index_id
 - description SQLREF-39
- index_name
 - description SQLREF-39
 - in CREATE INDEX statement SQLREF-199
 - in DROP statement SQLREF-258
 - length limitation SQLREF-349
- INDEXAUTH column SQLREF-369
- INDEXAUTH column
 - of SYSTABAUTH SQLREF-404
- indexing
 - after loading DIAG-192
 - concepts DIAG-50
 - hiding bad columns DIAG-153
 - insufficient DIAG-198
 - need to cluster DIAG-210
- indexing (*continued*)
 - on catalog tables DIAG-164
 - on sort columns DIAG-199
 - possible I/O problems DIAG-166, DIAG-189, DIAG-235
 - Possible I/O problems DIAG-193, DIAG-194, DIAG-210
 - smoothing keys DIAG-153
 - table ISQL-85
 - to avoid DBSPACE scans DIAG-177, DIAG-201
 - to avoid I/O's DIAG-190, DIAG-192, DIAG-194, DIAG-199, DIAG-211, DIAG-225, DIAG-233
 - use of numeric data types DIAG-235
- INDEXTYPE column SQLREF-369
- INDEXTYPE column
 - of SYSINDEXES SQLREF-388
- INDICATE USER
 - command PERF-15
 - description PERF-8
 - example PERF-16
- indicator
 - COMM WAITS, definition of DIAG-130
 - CONSISTENTLY HIGH RESPONSE TIME, definition of DIAG-130
 - definition of DIAG-130
 - ESCALATES, definition of DIAG-130
 - HIGH I/O UTILIZATION, definition of DIAG-130
 - LINK WAITS, definition of DIAG-130
 - LOCK WAITS, definition of DIAG-131
 - LOG I/O'S, definition of DIAG-131
 - LOW CPU UTILIZATION, definition of DIAG-131
 - LOW I/O UTILIZATION, definition of DIAG-131
 - PAGING, definition of DIAG-131
 - PERFORMANCE, definition of DIAG-130
 - PERIODIC HIGH RESPONSE TIME, definition of DIAG-131
- indicator array SQLREF-69
- indicator array
 - description APP-55
 - in assembler APP-312
 - in C APP-332
 - in COBOL APP-354
 - in Fortran APP-371
 - in PL/I APP-383
- INDICATOR keyword
 - indicator variables APP-60
- indicator variable
 - description APP-55, APP-59, SQLREF-68
 - detecting nulls APP-61
 - detecting truncation APP-61
 - EXECUTE IMMEDIATE statement SQLREF-271
 - FETCH statement APP-35
 - in assembler APP-312
 - in C APP-332
 - in COBOL APP-354
 - in Fortran APP-371
 - in PL/I APP-383
 - meaning of values returned APP-61
- indicator variable (*continued*)
 - PREPARE statement SQLREF-314
 - SQLDA SQLREF-361
- indicators
 - performance PERF-2
- indicators, performance PERF-3
- individual device utilization
 - load measurement PERF-15
- INfile
 - bind parameter APP-148
- INFILE parameter
 - RELOAD DBSPACE command DBSU-192
 - RELOAD TABLE command DBSU-198
- INFILE subcommand DBSU-159
- INFILE, RELOAD DBSPACE command DBSU-194
- INFILE's LIST parameter DBSU-161
- infix operator SQLREF-73
- influencing data access
 - with catalog statistics PERF-139
- initialization parameter
 - BLOCK PERF-110
 - CHKINTVL PERF-103
 - LOGMODE PERF-103
 - NCUSERS PERF-88, PERF-89
 - NDIRBUF PERF-85
 - NLRBS PERF-99
 - NLRBU PERF-99
 - NPACKAGE PERF-88
 - NPACKPCT PERF-88
 - NPAGBUF PERF-85
 - PCTFREE PERF-63, PERF-72
 - PROTOCOL PERF-108
 - retrieval PERF-8, PERF-20
- initialization parameters
 - ACCOUNT OPER-193, OPER-195, SYVM-60, SYVM-53
 - ADD DBEXTENT SYVM-140
 - ADD DBSPACE operation SYVM-127
 - AMODE SYVM-55
 - ARCHPCT OPER-180, SYVM-70, SYVM-64
 - ARCHTAPE SYVM-65
 - change settings OPER-63
 - CHARNAME OPER-180, SYVM-57, SYVM-51
 - CHKINTVL OPER-180, SYVM-69, SYVM-63
 - CMS file SYVM-89
 - CMS files OPER-5, OPER-186
 - DBMODE OPER-195, SYVM-56
 - DBNAME OPER-194, SYVM-55, SYVM-49
 - DBPSWD OPER-194
 - DBSPNUM OPER-180
 - DCSSID SYVM-55
 - DELETE DBEXTENT SYVM-140
 - DISPBIAS OPER-181, SYVM-66, SYVM-60
 - display current settings OPER-89
 - DSPLYDEV OPER-7, OPER-194, SYVM-65
 - DSPSTATS OPER-181, SYVM-60, SYVM-54
 - DUALLOG OPER-181

initialization parameters (*continued*)
 DUMPTYPE OPER-181, SYVM-72, SYVM-66
 EXTEND OPER-182, SYVM-72, SYVM-66
 list OPER-179
 LOGMODE OPER-183, SYVM-69, SYVM-63
 LTIMOUT SYVM-67, SYVM-61
 MAPPING OPER-196
 maximums SYVM-445
 multiple user mode SYVM-54, SYVM-79, SYVM-47
 NCSCANS OPER-184, SYVM-67, SYVM-60
 NCUSERS OPER-184, SYVM-62, SYVM-55
 NDIRBUF OPER-184, SYVM-64, SYVM-57
 NLRBS OPER-185, SYVM-64, SYVM-58
 NLRBU OPER-185, SYVM-64, SYVM-58
 NPACKAGE OPER-185, SYVM-63, SYVM-56
 NPACKPCT OPER-185, SYVM-63, SYVM-57
 NPAGBUF OPER-186, SYVM-63, SYVM-57
 overriding OPER-6, SYVM-56, SYVM-88, SYVM-50, SYVM-76
 parameter data set creation SYVM-77
 parameter file creation SYVM-89
 PARMID OPER-186, SYVM-50, SYVM-76
 PROCMXAB OPER-186, SYVM-68, SYVM-62
 PROGNAME OPER-186
 PROTOCOL OPER-196, SYVM-57
 PTIMEOUT OPER-186, SYVM-68, SYVM-62
 RMTUSERS OPER-194, SYVM-49
 SAVEINTV OPER-196
 SECALVER OPER-189, SYVM-61, SYVM-54
 SECTYPE OPER-189, SYVM-61, SYVM-54
 SEPINTDB OPER-197
 single user mode application programs SYVM-73, SYVM-67
 SLOGCUSH OPER-187
 SOSLEVEL OPER-187, SYVM-71, SYVM-65
 source member OPER-5
 specifying OPER-3
 SQLADBEX EXEC SYVM-162
 STARTUP OPER-188, SYVM-56, SYVM-50
 SYNCNPT OPER-189, SYVM-60, SYVM-53
 SYSMODE OPER-189, SYVM-56, SYVM-50
 TAPEMGR SYVM-71, SYVM-64
 TARGETWS OPER-197
 TCPCAN OPER-196, SYVM-62
 TCPDISPB OPER-195, SYVM-55
 TCPMAXRT SYVM-61, SYVM-55

initialization parameters (*continued*)
 TCPPORT OPER-190, SYVM-61, SYVM-55
 TCPRETRY SYVM-61, SYVM-55
 TRACCONV OPER-193, SYVM-72, SYVM-66
 TRACDBSS OPER-160, OPER-191, SYVM-72, SYVM-66
 TRACDRRM OPER-191, SYVM-72, SYVM-66
 TRACDSC OPER-160, OPER-192, SYVM-72, SYVM-66
 TRACEBUF OPER-192, SYVM-72, SYVM-67
 TRACRDS OPER-160, OPER-192, SYVM-72, SYVM-66
 TRACSTG OPER-192, SYVM-72, SYVM-66
 TRACWUM OPER-193, SYVM-72, SYVM-66
 initialization, storage layout after DIAG-291
 initializing
 online support OPER-18
 SQLDA APP-232
 your user machine APP-113
 initializing a user machine setting system defaults DBA-252
 inner table PERF-133
 INPUT DBA-60
 input area ISQL-10, ISQL-12
 input control card file building task DBSU-9
 embedded data DBSU-32
 errors DBSU-224
 SQL statements DBSU-143
 input data for DATALOAD DBSU-166
 input host variables APP-34
 input parameters OPER-179
 input record limitations DBSU-148
 skipping DBSU-47
 input_record_id_clauses, example DBSU-147
 inputting ending ISQL-106
 isolation level setting ISQL-88
 nullifying input ISQL-98
 routine ISQL-72
 saving a portion of input ISQL-128
 insert blocking PERF-83, PERF-110
 distributed database PERF-83
 multiple row PERF-110
 on view SQLREF-17
 restriction for view DBA-45
 rule dependent table DBA-8
 for foreign key DBA-40
 for primary key DBA-40
 parent table DBA-8
 SQLGLOB parameters SYVM-253
 INSERT DIAG-72
 INSERT assignment rules SQLREF-53
 data from another table ISQL-78
 format 2 problems DIAG-232

INSERT (*continued*)
 INSERT rules APP-293
 isolation level setting ISQL-88, ISQL-89
 performance problem index DIAG-137
 rules for referential integrity APP-293
 with subselect DBA-172, DBA-189
 insert and fetch blocking APP-139, APP-174
 INSERT by subselect SQLREF-299
 INSERT clause of GRANT statement SQLREF-294, SQLREF-295
 of REVOKE statement SQLREF-331, SQLREF-332
 insert cursor in DECLARE CURSOR statement SQLREF-236
 in OPEN statement SQLREF-308
 INSERT logic DIAG-52, PERF-67
 INSERT logic default logic DIAG-52
 insert rule description SQLREF-16
 INSERT statement description SQLREF-299
 EXECUTE IMMEDIATE statement SQLREF-272
 EXPLAIN statement SQLREF-274
 GRANT statement SQLREF-295
 OPEN statement SQLREF-310
 PREPARE statement SQLREF-315
 INSERT using VALUES SQLREF-299
 INSERT with subselect DBA-189
 insert-block in PUT statement SQLREF-324
 insert-statement in DECLARE CURSOR statement SQLREF-236, SQLREF-238
 INSERTAUTH column SQLREF-369
 INSERTAUTH column of SYSTABAUTH SQLREF-404
 installation defaults changing CCSID SYVM-306, SYVM-232
 changing CHARNAME SYVM-306, SYVM-232
 exit SYVM-339, SYVM-382, SYVM-263, SYVM-302
 installation option overview PERF-175
 production system PERF-175
 removing VMDSS PERF-175
 saved segment PERF-176
 installation planning SYVM-1
 installation process CMS communications directory SYVM-10
 DBNAME directory SYVM-23
 defining a user machine SYVM-10
 generating an database SYVM-9
 hardware requirements SYVM-1
 loading DB2 Server for VM SYVM-9
 planning SYVM-1
 SNA NETID file SYVM-11
 software requirements SYVM-1

installation replaceable exits SYVM-353, SYVM-276
 installation requirement
 CP directory PERF-211
 DASD PERF-173
 database disk PERF-174
 database machine PERF-171, PERF-172
 database machine DASD PERF-174
 dbextent PERF-174
 directory PERF-174
 FBA PERF-173
 hardware PERF-175
 log PERF-174
 MAINT machine PERF-171, PERF-172
 operating system PERF-171
 real storage PERF-172
 software PERF-172
 virtual storage PERF-172
 VM paging DASD PERF-173
 installing
 applications APP-112
 optional components SYVM-225, SYVM-226
 INT
 See INTEGER
 INT trace OPER-164, OPER-192
 INTABLE parameter
 RELOAD TABLE command
 DBSU-198
 integer
 arithmetic SQLREF-73
 constant SQLREF-60
 division SQLREF-73
 operand SQLREF-73
 operands SQLREF-73
 precision SQLREF-47
 INTEGER
 data type SQLREF-159, SQLREF-223
 function SQLREF-104
 INTEGER data type
 assembler APP-317
 C APP-346
 COBOL APP-364
 data types APP-391
 Fortran APP-378
 PL/I APP-391
 INTEGER data type of column DBA-32
 integrity
 atomic APP-287, SQLREF-11
 data APP-288, SQLREF-12, SQLREF-18
 entity APP-288, SQLREF-11
 referential APP-288, SQLREF-12
 intent
 exclusive lock
 description PERF-94
 none lock
 description PERF-95
 share lock
 description PERF-94
 intent exclusive lock
 description DIAG-70
 intent none lock
 description DIAG-70
 intent share lock
 description DIAG-70
 intention exclusive (IX) mode OPER-95
 inter-machine communications SYVM-94
 Inter-User Communication Vehicle (IUCV) SYVM-94
 Inter-User Communication Vehicle (IUCV)
 CONNECT SYVM-95
 syntax for *IDENT SYVM-42
 syntax for IUCV SYVM-44
 Inter-User Communication Vehicle (IUCV) protocol DIAG-26
 interactive
 interface
 VSE PERF-8
 user
 VSE PERF-89
 interactive application DBA-149
 interactive application development configuration SYVM-4
 interactive entry of SQL statements SQLREF-142
 interactive SQL
 description SQLREF-10
 QMF SQLREF-10
 Interactive Structured Query Language
 See ISQL
 Interactive Structured Query Language (ISQL)
 See also ISQL
 affected by implicit CONNECT DBA-98
 asynchronous communication PERF-112
 AUTOCOMMIT PERF-112
 backing out DBA-130
 blocking PERF-111
 CANCEL PERF-112
 CICS PERF-80
 concurrent users PERF-80
 CONNECT considerations DBA-102
 database consistency DBA-174
 dbspace DBA-167
 EXEC using DBA-152
 FORMAT DBA-156
 INPUT DBA-60
 INPUT restrictions for views DBA-46
 isolation level PERF-113
 maximums DBA-271
 performance considerations PERF-112
 PRINT DBA-156
 report writing DBA-156
 routine DBA-151
 routine
 testing SQL statements DBA-163, DBA-174
 routines DBA-167
 session termination DBA-128
 setting up a new user DBA-82
 stored query DBA-173
 stored query to test SQL statement DBA-174
 temporary table PERF-113
 testing SQL statements DBA-173
 training new users DBA-85
 transaction name PERF-80
 view PERF-113
 interface conventions DBSU-118
 internal dbspace
 adding to a virtual disk pool PERF-52
 data spaces PERF-77
 format SYVM-297
 mapped
 choosing PERF-199
 understanding PERF-163
 using PERF-192
 placement PERF-77
 requirements SYVM-20, SYVM-20
 unmapped
 choosing PERF-199
 understanding PERF-164
 using PERF-192
 virtual disk PERF-48, PERF-54, PERF-77
 internal dbspaces
 DASD needs for sorting DBA-238
 estimating size DBA-238
 internal statistics, updating APP-262
 International Standards Organization (ISO)
 format SQLREF-50
 interpreter tracing OPER-164, OPER-192
 interpretive commands, how they work DIAG-329
 interval
 sampling PERF-14
 interval checkpoint OPER-180
 interval option
 with the CIRR transaction OPER-35
 with the CIRT transaction OPER-31
 interval, monitoring PERF-6
 INTO clause
 description APP-38
 dynamically defined statements APP-220
 FETCH statement APP-35
 of DESCRIBE statement SQLREF-248
 of FETCH statement SQLREF-284
 of INSERT statement SQLREF-299, SQLREF-300
 of SELECT INTO statement SQLREF-337
 restriction for subqueries APP-77
 unions APP-89
 introduction to Database Services Utility DBSU-3
 invalid
 entity DIAG-199
 index DIAG-51, DIAG-52, DIAG-199
 invalid index DBSU-138, DBSU-229, PERF-74
 invalid index
 package PERF-74
 SHOW INVALID PERF-74
 invalid index, SHOW INVALID example OPER-93
 invalid indexes SYVM-32, SYVM-40
 invalidate package to improve performance DIAG-218
 invalidation of packages SQLREF-165, SQLREF-258, SQLREF-259
 invocation of statements SQLREF-140
 invoking
 PL/I preprocessor
 multiple user mode APP-156

- invoking task
 - SQLDBSU DBSU-15
 - invoking the Database Services Utility
 - from application programs DBSU-112
 - invoking the preprocessor APP-114, APP-154
 - IPCTFREE column SQLREF-369
 - IPCTFREE column
 - of SYSINDEXES SQLREF-389
 - IPL procedure PERF-49
 - IS clause
 - of COMMENT ON PROCEDURE statement SQLREF-181
 - of COMMENT ON statement SQLREF-180
 - of LABEL ON statement SQLREF-304, SQLREF-305
 - ISO APP-133, APP-168
 - ISO
 - See International Standards Organization (ISO)
 - ISO attribute
 - DATE option
 - CREATE PACKAGE statement SQLREF-203
 - ISO-ANS SQL(89) / DB2 Server for VSE & VM equivalent terms SQLREF-423, SQLREF-425
 - ISOL control parameter DBSU-117
 - isolating problems OPER-155
 - isolating problems
 - with ISQLMAP OPER-177
 - with ISQLTRACE OPER-177
 - ISOLATION keyword
 - LIST command ISQL-120
 - SET command ISQL-131
 - isolation level
 - considerations for adhoc users PERF-113
 - cursor stability APP-134, APP-170, SQLREF-21
 - cursor stability
 - guidelines ISQL-87
 - description DIAG-66, ISQL-131, PERF-97, SQLREF-20
 - escalation SQLREF-22
 - exclusive SQLREF-20
 - ISQL PERF-113
 - lock duration PERF-98
 - lock escalation PERF-100
 - locking data ISQL-86
 - mixing APP-137, APP-173
 - program control SQLREF-22
 - remote unit of work APP-137
 - repeatable read APP-134, APP-170, SQLREF-20
 - repeatable read
 - guidelines ISQL-89
 - selecting PERF-98
 - setting DBSU-219
 - share SQLREF-20
 - specifying ISQL-86, ISQL-131
 - uncommitted read SQLREF-21
 - uncommitted read
 - guidelines ISQL-87
 - UNLOAD DBSU-65
 - update SQLREF-20
 - isolation level (*continued*)
 - USER SQLREF-22
 - user defined PERF-98
 - USER option APP-124, APP-137, APP-165, APP-173
 - ISOLATION option
 - of CREATE PACKAGE statement SQLREF-203
 - ISOLation preprocessor parameter APP-124, APP-165
 - ISOLATION preprocessor parameter APP-137, APP-173
 - ISQ2
 - transaction name PERF-80
 - ISQL
 - commands
 - BACKOUT ISQL-98
 - CANCEL ISQL-14, ISQL-100
 - CHANGE ISQL-34, ISQL-102
 - description ISQL-2
 - END ISQL-25, ISQL-106
 - ERASE ISQL-65, ISQL-107
 - EXIT ISQL-17, ISQL-108
 - HELP ISQL-16, ISQL-17, ISQL-117
 - HOLD ISQL-36, ISQL-118
 - IGNORE ISQL-35
 - LIST ISQL-65, ISQL-120
 - LIST SET ISQL-59
 - LIST SQL ISQL-65
 - RECALL ISQL-63, ISQL-124
 - RENAME ISQL-65, ISQL-125
 - RUN ISQL-71, ISQL-127
 - SAVE ISQL-128
 - SET ISQL-29, ISQL-30, ISQL-59, ISQL-129
 - START ISQL-62, ISQL-135
 - STORE ISQL-61, ISQL-136
 - description ISQL-2
 - DISPLAY ISQL-72
 - display commands
 - BACKWARD ISQL-22, ISQL-99
 - COLUMN ISQL-25, ISQL-103
 - description ISQL-19
 - DISPLAY ISQL-105
 - END ISQL-25, ISQL-106
 - FORMAT ISQL-39, ISQL-55, ISQL-109
 - FORWARD ISQL-20, ISQL-116
 - LEFT ISQL-25, ISQL-119
 - PRINT ISQL-25, ISQL-121
 - RIGHT ISQL-23, ISQL-126
 - TAB ISQL-25, ISQL-138
 - END ISQL-106
 - ERASE ISQL-107
 - EXIT ISQL-17, ISQL-108
 - HELP ISQL-117
 - HOLD ISQL-118
 - IGNORE ISQL-14
 - isolation level setting ISQL-88
 - leaving from signon display ISQL-8
 - LIST ISQL-120
 - mode ISQL-13
 - mode
 - display ISQL-13
 - wait ISQL-13
 - RECALL ISQL-124
 - RENAME ISQL-125
 - ISQL (*continued*)
 - RUN ISQL-127
 - SAVE ISQL-128
 - SET ISQL-129
 - START ISQL-135
 - starting ISQL-4, ISQL-5, ISQL-8
 - stopping ISQL-17, ISQL-108
 - STORE ISQL-136
 - transaction identifier ISQL-68
 - ISQL (Interactive Structured Query Language)
 - changing the default language SYVM-261
 - controlling access to SYVM-141, SYVM-119
 - controlling active user number SYVM-105, SYVM-90
 - dbspace SYVM-19, SYVM-19
 - description DIAG-7
 - estimating dbspace requirements SYVM-442, SYVM-353
 - non-DB2 Server for VM application server SYVM-401
 - routines
 - estimating dbspace size SYVM-442, SYVM-353
 - stored SQL statements
 - estimating dbspace size SYVM-443, SYVM-354
 - transaction SYVM-72
 - ISQL EXEC DBA-152, ISQL-8, ISQL-67
 - ISQL session manager ISQL-4
 - ISQL user data, CIRD transaction OPER-22
 - ISQLTRACE command OPER-177
 - ITALIAN character set SYVM-313, SYVM-239
 - IUCV
 - *IDENT statement SYVM-276
 - ALLOW SYVM-276
 - IUCV *BLOCKIO
 - DASD I/O system PERF-85
 - page format PERF-58
 - IUCV conversations PERF-93
 - IX (intention exclusive) mode OPER-95
- ## J
- JAPANESE (Katakana) character set SYVM-314, SYVM-240
 - Japanese Industrial Standard
 - See JIS (Japanese Industrial Standard)
 - JCL (job control)
 - format trace output OPER-168
 - source members OPER-6
 - starting the application server OPER-1
 - starting the application server in single user mode OPER-8
 - user archive OPER-49
 - JIS (Japanese Industrial Standard)
 - format SQLREF-50
 - JIS attribute
 - DATE option
 - CREATE PACKAGE statement SQLREF-203
 - job control
 - database SYVM-217
 - for accounting SYVM-187

job control (*continued*)
 multiple user mode SYVM-69
 redefining for a database SYVM-134,
 SYVM-135

job control (JCL)
 format trace output OPER-168
 source members OPER-6
 starting the application server OPER-1
 starting the application server in
 single user mode OPER-8
 user archive OPER-49

job control example
 accounting files on tape SYVM-192
 cataloging a database SYVM-218
 COLDLOG operation SYVM-171
 DASD accounting files SYVM-189,
 SYVM-190
 generating a database SYVM-219
 installing optional components
 SYVM-226
 installing optional database
 components SYVM-225
 multiple user mode DBSU-108,
 DBSU-109
 reloading CCSID-related package
 SYVM-226
 single user mode DBSU-106,
 DBSU-108
 startup with accounting enabled
 SYVM-193

job control example, invoking Database
 Services Utility with single user mode
 DBSU-108

job control example, multiple user mode
 DBSU-109

job control examples
 adding dbextents SYVM-136
 ARIUXDT installation SYVM-284
 ARIUXIT installation SYVM-269
 ARIUXTM installation SYVM-284
 deleting dbextents SYVM-136
 for a batch application program
 SYVM-71
 for starting the application server in
 multiple user mode SYVM-69
 for starting the application server in
 single user mode SYVM-73
 multiple user mode preprocessing
 APP-156
 starting the application server in
 single user mode with user
 parameters SYVM-73
 suppressing printout APP-160

join
 common column names APP-67
 correlated subqueries APP-85
 data conversion APP-66
 definition SQLREF-121
 description APP-66
 equijoin DBA-5
 example SQLREF-127
 join variable APP-68
 limits APP-70
 merge scan PERF-134
 multiple PERF-136
 nulls APP-68
 number permitted APP-70

join (*continued*)
 path DBA-5
 performance considerations PERF-132
 predicate PERF-126
 referring to another user's table
 APP-67, APP-69
 SELECT * APP-71
 single table (to itself) APP-68
 stored PERF-113, PERF-155
 tables, in applications DIAG-233
 too many DIAG-232
 trailing blanks APP-68
 use of DIAG-196
 without join conditions APP-66

K

kanji
 language key DBA-140

KEEP
 bind parameter APP-149

KEEP option
 of CREATE PACKAGE statement
 SQLREF-204
 of preprocessor DBA-191

KEEP parameter APP-124, APP-165

keeping authorization names and
 password secret APP-160

key
 activating and deactivating
 SQLREF-17
 composite SQLREF-11
 definition SQLREF-11
 foreign APP-290
 foreign
 adding ISQL-81
 creating ISQL-80
 language DBA-139
 language keys and language
 identifiers SYVM-334, SYVM-261
 multicolumn DBA-5, DBA-52
 primary APP-290, DBA-4, DBA-38,
 SQLREF-11
 primary
 adding ISQL-80
 creating ISQL-80
 primary index SQLREF-11
 unique DBA-4, DBA-5, SQLREF-11
 unique index SQLREF-11

key hashing
 hot key hashes DIAG-183
 possible lock wait problems
 DIAG-145, DIAG-164

key locking
 definition of DIAG-131
 hot keys DIAG-183
 in catalog tables DIAG-162, DIAG-179
 possible lock wait problems
 DIAG-145, DIAG-164

key processing SYVM-11

key sequence, possible lock wait
 problems DIAG-145

key structure
 changing to avoid hash conflicts
 DIAG-165
 changing to avoid hot keys DIAG-184

key structure (*continued*)
 changing to avoid lock conflicts
 DIAG-146
 making keys smaller DIAG-166

key-level locking DBA-26

key-matching PERF-123

keyboard, unlocked ISQL-12

KEYCOLS column SQLREF-369

KEYCOLS column
 of SYSKEYS SQLREF-392

KEYLEN column SQLREF-369

KEYLEN column
 of SYSINDEXES SQLREF-389

KEYNAME column SQLREF-369

KEYNAME column
 of SYSKEYCOLS SQLREF-390
 of SYSKEYS SQLREF-391

KEYORD column SQLREF-369

KEYORD column
 of SYSKEYCOLS SQLREF-390

KEYTYPE column SQLREF-369

KEYTYPE column
 of SYSINDEXES SQLREF-390
 of SYSKEYCOLS SQLREF-390
 of SYSKEYS SQLREF-391

keyword
 additional DIAG-98
 ALLUSERS DBA-103
 in syntax diagrams APP-ix, DBA-xiii,
 DBSU-xiii, DIAG-xi, ISQL-xi,
 OPER-viii, PERF-viii, SQLREF-2,
 SYVM-xi, SYVM-xi
 spanning input records DBSU-136
 using more than one
 ERASE command ISQL-65
 FORMAT command ISQL-46,
 ISQL-51
 LIST command ISQL-65, ISQL-120
 PRINT command ISQL-27,
 ISQL-123
 SET command ISQL-59, ISQL-133

keyword control statements SYVM-294,
 SYVM-221

keyword control statements
 formats SYVM-294

keyword types DIAG-82

keyword types
 abnormal termination DIAG-83
 component identification DIAG-82
 document DIAG-98
 first failure data capture DIAG-88
 incorrect or missing output DIAG-98
 message DIAG-85
 NO RESPONSE DIAG-97
 release level DIAG-82
 SLOW RESPONSE DIAG-97

keyword, developing
 first two DIAG-82
 remaining DIAG-83
 remaining
 abnormal termination DIAG-83
 document DIAG-98
 first failure data capture DIAG-88
 message DIAG-85
 NO RESPONSE DIAG-97
 output missing/incorrect DIAG-98
 SLOW RESPONSE DIAG-97

keyword, developing (continued)
 remaining (continued)
 wait or loop DIAG-97
knowledge prerequisites DBSU-x

L

label

See also LABEL ON statement
 columns SQLREF-304
 producing with LABEL ON statement SQLREF-304
 tables SQLREF-304
 views SQLREF-304

LABEL

 SQL APP-262

LABEL ON

 how it works DIAG-339

LABEL ON statement

 column name qualification SQLREF-64
 description SQLREF-304
 EXECUTE IMMEDIATE statement SQLREF-272
 PREPARE statement SQLREF-315

LABEL option

 of CREATE PACKAGE statement SQLREF-204

LABEL preprocessor parameter APP-125, APP-166

LABELDEF command SYVM-76

labeled duration

 DAY SQLREF-71, SQLREF-74
 DAYS SQLREF-71, SQLREF-74
 description DBA-180
 HOUR SQLREF-71, SQLREF-75
 HOURS SQLREF-71, SQLREF-75
 MICROSECOND SQLREF-71, SQLREF-75
 MICROSECONDS SQLREF-71, SQLREF-75
 MINUTE SQLREF-71, SQLREF-75
 MINUTES SQLREF-71, SQLREF-75
 MONTH SQLREF-71, SQLREF-74
 MONTHS SQLREF-71, SQLREF-74
 SECOND SQLREF-71, SQLREF-75
 SECONDS SQLREF-71, SQLREF-75
 YEAR SQLREF-71, SQLREF-74
 YEARS SQLREF-71, SQLREF-74

labeling

 archive tapes SYVM-214, SYVM-156
 single-volume tapes SYVM-75
 tapes SYVM-75

LABELS

 in USING clause
 of DESCRIBE statement SQLREF-248
 of Extended DESCRIBE statement SQLREF-252

labels for columns DBSU-23

LANGBLK SYVM-261

LANGID column SQLREF-369

LANGID column

 of SYSLANGUAGE SQLREF-392

langid option

 CIRB transaction OPER-20
 SET LANGUAGE command OPER-56

LANGKEY DBA-140, SYVM-334, SYVM-260

LANGKEY column SQLREF-369

LANGKEY column

 of SYSLANGUAGE SQLREF-392

language

 choosing character sets OPER-180
 CIRB transaction, langid option OPER-20
 SET LANGUAGE operator command OPER-56

LANGUAGE column SQLREF-369

LANGUAGE column

 of SYSLANGUAGE SQLREF-392

Language Environment (LE)

 related errors DIAG-125

language for message and HELP text

 ISQL-58

language key DBA-139, SYVM-334, SYVM-260

language key

 reserved ranges DBA-140
 when adding HELP text DBA-144

languages

 choosing SYVM-305, SYVM-337, SYVM-231

 messages SYVM-332, SYVM-259

 national SYVM-332, SYVM-259

 national

 keys and identifiers SYVM-334, SYVM-261

 messages SYVM-60, SYVM-53

 SYSLANGUAGE table SYVM-334, SYVM-260

LARCHIVE SYVM-206, SYVM-155

LARCHIVE operator command OPER-50

large display support ISQL-1

large integer

 definition SQLREF-47

large sort, required on CREATE INDEX

 DIAG-166

large tables

 in same DBSPACE DIAG-199

 putting in own DBSPACE DIAG-202, DIAG-234

LASTING GLOBALV file DBA-250

law of diminishing returns PERF-1

layout of special operator command

 responses DIAG-318, DIAG-322

layout of storage after initialization

 DIAG-286, DIAG-291

LDATELEN parameter of exec DBA-255

LDIRBUFF counter OPER-59, PERF-23

leading sign, zoned field DBSU-153

leading zeros

 controlling ISQL-44, ISQL-110

leaving the application server OPER-11

LEFT command

 example ISQL-25

 PF key ISQL-157

 reference ISQL-119

length

 attribute

 column SQLREF-44

 host variable SQLREF-79

LENGTH

 function SQLREF-105

LENGTH (SET command) ISQL-58

length attribute of column

 changing ISQL-45

LENGTH column SQLREF-369

LENGTH column

 of SYSCOLUMNS SQLREF-381

length of field

 output DBSU-174

length, column PERF-39

letter SQLREF-35, SQLREF-36

level 0 trace OPER-163

level 1 trace OPER-163

level 2 trace OPER-163

LFDDBSpace column SQLREF-369

LFDDBSpace column

 of SYSCATALOG SQLREF-377

LFDLINK column SQLREF-369

LFDLINK column

 of SYSCATALOG SQLREF-377

LFDTABID column SQLREF-369

LFDTABID column

 of SYSCATALOG SQLREF-377

LIBDEF statements

 DB2 Server for VM libraries SYVM-217

like

 description DBA-13

LIKE predicate

 description SQLREF-86

limitations on input records DBSU-145, DBSU-148

limiting

 privilege by using a view ISQL-83

limits

 joins APP-70

 system tuning PERF-3

limits in the database manager

 SQLREF-349

lines per page DBSU-219

LINEWIDTH control parameter

 DBSU-115

LINK commands in SQLFDEF SYVM-291

link waits

 because of held agents DIAG-148

 causes of DIAG-204

 definition of DIAG-132

 indicator definition DIAG-130

 performance problem index DIAG-140

 ratio definition DIAG-132

 when locks held long time DIAG-204

link-edit PERF-180

link-edit EXEC

 example DBSU-122

link-editing

 extra modules required APP-179

 module not found APP-142, APP-178

LINKID column SQLREF-369

LINKID column

 of SYACCESS SQLREF-374

linkmap

 access for the database manager

 DIAG-282

 definition of DIAG-280

LIST

 examples ISQL-65

 obtaining printed reports ISQL-59

 reference ISQL-120

- LIST (*continued*)
 - setting more than one characteristic ISQL-59
- list format Database Services Utility
 - output DBSU-99
- LIST parameter
 - description DBSU-161
 - unreadable DBCS data in message file DBSU-231
- LISTCAT PERF-8, PERF-20
- LISTCAT command SYVM-189
- listing
 - format characteristics ISQL-59
 - more than one stored command ISQL-65
 - name
 - column in table ISQL-76
 - stored SQL statement ISQL-65
 - table ISQL-75
 - view ISQL-75
 - operational characteristics ISQL-120
 - stored SQL statement ISQL-120
- literal
 - description SQLREF-59
- load
 - leveling PERF-46
 - workload PERF-3
- LOAD
 - used by database manager SYVM-82
- load measurement
 - checkpoint PERF-23
 - CPU PERF-14, PERF-17
 - DASD I/O PERF-17
 - database machine or partition DASD I/O load PERF-15
 - description PERF-7, PERF-13
 - I/O PERF-140
 - individual device utilization PERF-15
 - logical unit of work PERF-23
 - main storage PERF-17
 - operating system PERF-14
 - processor PERF-14, PERF-17
 - real and virtual storage PERF-14
 - system paging DASD PERF-14, PERF-17
 - tools PERF-14
- load point of DB2 Server for VM user programs SYVM-83
- load-data
 - commands DBSU-145
 - committing while loading DBSU-44
 - into multiple tables DBSU-38
 - record-count determination DBSU-45
 - skipping bad records DBSU-45
 - spanning multiple records DBSU-42
- loading
 - accounting data SYVM-262, SYVM-206
 - COBOL considerations APP-112
 - HELP text
 - SQLDBINS EXEC SYVM-279
 - message file SYVM-335
 - multiple table DBSU-38
 - multiple table rows DBSU-41
 - null values DBSU-36
 - procedures DBSU-36
 - program APP-142, APP-178
- loading (*continued*)
 - record into several tables DBSU-40
 - saved segments PERF-182, SYVM-186
 - sequence SYVM-82
 - user-specified format DBSU-32
- loading commands
 - DATALOAD TABLE DBSU-145
 - program-load DBSU-207
 - RELOAD DBSPACE DBSU-191
 - RELOAD PACKAGE DBSU-208
 - RELOAD TABLE DBSU-196
- loading data
 - definition of DIAG-132
 - exclusive locking in catalogs DIAG-179
 - for new users DBA-85
 - from a terminal DBA-60
 - from CMS file DBA-59
 - from other table DBA-61
 - from sequential file DBA-61
 - from virtual reader file DBA-59
 - from VSAM file DBA-61
 - into tables DBA-59
 - logging during DIAG-206
 - performance problem index DIAG-138
 - possible DBSPACE scan problems DIAG-172
 - possible I/O problems DIAG-224, DIAG-234
 - possible lock escalation problems DIAG-203, DIAG-215
 - possible lock wait problems DIAG-145, DIAG-164, DIAG-183, DIAG-202, DIAG-205, DIAG-234
 - using a test dbspace DBA-172
 - using DBS Utility DBA-162
 - using the DBS Utility DBA-59
- loading security audit information into a table DBA-114
- LOADLIB
 - ARISQLLD SYVM-6
 - FILEDEF SYVM-82
- LOADMOD SYVM-82
- LOADSYS SYVM-82
- local
 - buffer
 - DASD I/O system PERF-85
 - new page PERF-63
 - NPAGBUF PERF-87
 - performance indicator PERF-24
 - virtual addressability extension PERF-80
 - copy
 - distributed database PERF-83
 - definition DBA-13
- LOCAL attribute
 - DATE option
 - CREATE PACKAGE statement SQLREF-203
 - local date DBSU-150, DBSU-172
 - LOCAL resource SYVM-56
 - local time DBSU-150, DBSU-173
 - LOCAL time standard
 - format SQLREF-51
- LOCALAXE entry
 - privileged remote DRDA user PERF-92
- locating and dispatching a dispatchable agent DIAG-23
- locating SQL statements DIAG-296
- locations
 - physical data PERF-19
- lock OPER-58
- lock
 - COMMIT statement SQLREF-184
 - conversion OPER-101, OPER-111
 - counter OPER-58
 - dbspace SQLREF-306
 - DELETE statement SQLREF-246
 - description SQLREF-18
 - escalation OPER-58, OPER-185, SQLREF-20
 - held for long duration DIAG-204
 - INSERT statement SQLREF-302
 - LOCK DBSPACE statement SQLREF-306
 - LOCK TABLE statement SQLREF-307
 - modes OPER-102
 - request mode OPER-111
 - request state OPER-111
 - ROLLBACK statement SQLREF-336
 - show active locks OPER-93
 - SHOW LOCK DBSPACE OPER-96
 - SHOW LOCK GRAPH command OPER-98
 - SHOW LOCK GRAPH example OPER-102, OPER-103
 - SHOW LOCK MATRIX command OPER-103
 - SHOW LOCK USER command OPER-106
 - SHOW LOCK WANTLOCK command OPER-108
 - table SQLREF-307
 - types SQLREF-20
 - UPDATE statement SQLREF-342
- LOCK APP-258, DBA-74
- LOCK
 - ACQUIRE DBSPACE APP-257
 - ALTER DBSPACE APP-257
 - lock escalation PERF-99
- LOCK clause
 - of ACQUIRE DBSPACE statement SQLREF-146
 - of ALTER DBSPACE statement SQLREF-149
- lock concept DIAG-66
- lock concept
 - how it works DIAG-66
 - how it works
 - access to private DBSPACES DIAG-78
 - deadlock detection DIAG-77
 - isolation level cursor stability DIAG-67
 - isolation level repeatable read DIAG-67
 - isolation level uncommitted read DIAG-68
 - lock compatibility DIAG-71
 - lock durations DIAG-70
 - lock escalation DIAG-77
 - lock modes DIAG-69

- lock concept (*continued*)
 - how it works (*continued*)
 - locking done by DB2 Server for VSE & VM DIAG-72
 - locking hierarchy DIAG-69
 - isolation levels DIAG-66
- lock contention
 - access path PERF-96
 - catalog table PERF-98
 - deadlock PERF-102
 - index PERF-96
 - isolation level PERF-97
 - lock compatibility DIAG-71, PERF-95
 - logical unit of work PERF-96
 - measurement PERF-35
 - minimum lock level PERF-96
 - NCUSERS PERF-96
 - operator SHOW command PERF-35
 - row level locking PERF-96
- LOCK DBSPACE statement
 - description SQLREF-306
 - EXECUTE IMMEDIATE statement SQLREF-272
 - PREPARE statement SQLREF-315
- lock escalation DBSU-227, SYVM-64, SYVM-58
- lock escalation
 - ALTER DBSPACE PERF-99
 - because of excessive locking DIAG-176
 - because of low lock levels DIAG-203
 - because of small NLRB parameters DIAG-215
 - COUNTER operator command PERF-100
 - DBS utility PERF-114
 - deadlock PERF-102
 - definition of DIAG-131
 - isolation level PERF-100
 - LOCK PERF-99
 - measurement PERF-37
 - NCUSERS PERF-89
 - operator SHOW command PERF-37
 - overview PERF-99
 - performance problem index DIAG-144
 - SHOW LOCK MATRIX PERF-100
 - trading lock level PERF-99
 - when it is good DIAG-214
- lock level
 - decreasing DIAG-146, DIAG-177, DIAG-184, DIAG-203
 - definition of DIAG-132
 - increasing DIAG-165, DIAG-177, DIAG-204
 - set too low DIAG-203
 - too high DIAG-202
- lock management tracing OPER-163, OPER-191
- LOCK parameter DBA-26
- lock request block
 - determining number required PERF-100
 - insufficient PERF-100
 - NLRBS PERF-99
 - NLRBU PERF-99
 - number in use PERF-37
- lock request block (*continued*)
 - performance indicator PERF-24, PERF-100
- lock request block (LRB)
 - NLRBS initialization parameter OPER-185
 - number per user OPER-185
 - possible paging problems DIAG-214
 - usage OPER-103
- lock size
 - definition APP-255
- LOCK TABLE statement
 - description SQLREF-307
 - EXECUTE IMMEDIATE statement SQLREF-272
 - PREPARE statement SQLREF-315
- LOCK trace OPER-163, OPER-191
- lock wait rate
 - definition DIAG-132
- lock wait table OPER-104
- lock wait timeout SYVM-67, SYVM-61
- lock wait timeout
 - avoid global deadlocks DIAG-206
 - use of DIAG-206
- lock waits
 - because of adjacent key locking DIAG-145
 - because of DBSPACE scans DIAG-169, DIAG-199
 - because of excessive locking DIAG-176
 - because of held agents DIAG-148
 - because of held locks DIAG-204
 - because of high lock levels DIAG-202
 - because of key hash conflicts DIAG-164
 - because of key locking in catalogs DIAG-162
 - because of large DBSPACES DIAG-199
 - because of lock escalations DIAG-215
 - because of locking in catalogs DIAG-179
 - because of low lock levels DIAG-203
 - because of repeatable read usage DIAG-205
 - because of too many agents DIAG-230
 - because of UPDATE STATISTICS DIAG-234
 - definition of DIAG-132
 - due hot spots in data DIAG-183
 - indicator definition DIAG-131
 - performance problem index DIAG-144
- locking
 - adjacent index page DIAG-145
 - adjacent key, example of DIAG-164
 - adjacent key, possible problems in catalogs DIAG-163
 - as overhead PERF-11
 - automatic override DBSU-227
 - catalog tables DBSU-227
 - compatibility DIAG-71, PERF-95
 - considerations
 - DATALOAD and RELOAD DBSU-228
 - description DBSU-227
 - reducing lock escalation DBSU-228, PERF-114
- locking (*continued*)
 - considerations (*continued*)
 - SHARE lock DBSU-228
 - UNLOAD PACKAGE and RELOAD PACKAGE DBSU-228
 - contention
 - overview PERF-93
 - performance indicator PERF-99
 - cost of PERF-11
 - data DBSU-227, ISQL-86
 - DBS utility
 - DATALOAD and RELOAD PERF-114
 - deadlock PERF-114
 - UNLOAD PACKAGE and RELOAD PACKAGE PERF-114
 - dbspace DBSU-227
 - dbspaces
 - explicitly APP-258
 - modifying APP-255
 - reading APP-255
 - description APP-258
 - done by DB2 Server for VSE & VM DIAG-72
 - duration APP-258, PERF-95
 - duration
 - isolation level PERF-98
 - escalation DBSU-227
 - excessive DIAG-176
 - exclusive APP-258
 - exclusive locking in tables DIAG-179
 - hierarchy PERF-94
 - index on locking related problems DIAG-144
 - isolation level ISQL-86, ISQL-131
 - isolation level
 - considerations APP-134, APP-170
 - key-level DBA-26
 - lock level PERF-96
 - lockmode
 - dbspace PERF-40
 - index PERF-41
 - minimum lock level PERF-121
 - mode DIAG-69, PERF-94
 - NCUSERS PERF-89
 - on indexes DIAG-75
 - operator SHOW commands PERF-35
 - overview PERF-93
 - possible adjacent key problems DIAG-145
 - private dbspace DIAG-71, PERF-95
 - share APP-258
 - SHARE lock
 - DBS utility PERF-114
 - tables explicitly APP-258
 - update APP-258
 - virtual addressability extension PERF-80
 - LOCKLMT
 - counter PERF-37
 - example PERF-23
 - LOCKLMT counter OPER-58, SYVM-65, SYVM-58
 - LOCKLMT counter
 - uses of DIAG-176, DIAG-214
 - LOCKMODE column SQLREF-369

LOCKMODE column
of SYSDBSAPACES SQLREF-385
of SYSINDEXES SQLREF-389

LOCKMODE, possible lock wait
problems DIAG-202, DIAG-203

lockout with cursor stability DIAG-127

log PERF-202

log
activity when ARCHPCT is reached
SYVM-70, SYVM-64
allocation considerations SYVM-17,
SYVM-17
alternate PERF-105
alternate
using SYVM-229, SYVM-169
archive PERF-105
archive
at shutdown OPER-12
checkpoint SYVM-207, SYVM-156
continuity SYVM-228, SYVM-168
creating SYVM-206, SYVM-154
definition OPER-50
device address SYVM-93
example SYVM-210
FILEDEF needed SYVM-80
introduction SYVM-197,
SYVM-147
LARCHIVE command for
SYVM-206, SYVM-155
SQLEND LARCHIVE command
SYVM-206, SYVM-155
to disk OPER-51, SYVM-209
to tape OPER-50
archive file output (ARILARC)
OPER-10
caching PERF-78
capacities of IBM DASDs SYVM-428,
SYVM-341
checkpoint PERF-103
continuity SYVM-228, SYVM-168
cushion OPER-113, OPER-187,
PERF-107
damaged data set SYVM-164
damaged minidisks SYVM-225
data sets OPER-188
database information DBA-17,
SYVM-143, SYVM-123
defining SYVM-284, SYVM-214
description DBA-17, SYVM-194,
SYVM-144
determining size OPER-113
dual PERF-105
dual
defining SYVM-16, SYVM-284,
SYVM-16, SYVM-214
placing SYVM-17, SYVM-17
using SYVM-230, SYVM-170
dual logging OPER-181
failure
switching log data SYVM-235
file PERF-105
file names (LOGDSK1 and LOGDSK2)
SYVM-217
filtered log recovery OPER-182
full
checkpoint PERF-103
full processing SYVM-69, SYVM-63

log (*continued*)
history area SYVM-235, SYVM-173
inactive
checkpoint PERF-103
increasing size SYVM-171
increasing the size of SYVM-231
invalid index PERF-74
log usage OPER-113
log-full processing SYVM-69,
SYVM-63
LOGWRITE counter OPER-59
management tracing OPER-163,
OPER-191
maximum size by DASD type
SYVM-447, SYVM-359
mode switching SYVM-227,
SYVM-231, SYVM-167, SYVM-172
moving SYVM-231
online log archive, LARCHIVE
command OPER-50
placement PERF-78
placement of dual logs SYVM-17,
SYVM-17
purpose SYVM-7, SYVM-9
reconfiguration SYVM-230,
SYVM-231, SYVM-171
reconfiguring SYVM-171
recovery (filtered) DBA-130
reformatting SYVM-230, SYVM-231,
SYVM-171, SYVM-172
replacing SYVM-225, SYVM-164
replacing
damaged dataset SYVM-148
damaged minidisk SYVM-198
SHOW LOG OPER-113, PERF-108
size SYVM-14, SYVM-17, SYVM-14,
SYVM-17
space SYVM-69, SYVM-63
specifying
log mode OPER-183
trace OPER-191
two logs OPER-181
starter database size and placement
SYVM-10
switching log data SYVM-235
switching log modes SYVM-227,
SYVM-167
trace OPER-163
usage by DBS Utility loading
SYVM-17, SYVM-17
volume considerations SYVM-17,
SYVM-17

log buffer PERF-202
log checkpoints DIAG-61
log considerations DBSU-105
log disk PERF-202
log I/O's
because of loading DIAG-206
definition of DIAG-131
performance problem index DIAG-143

LOG job control statement APP-160

log recovery, filtered
See recovering from DBSS errors

log space
requirements DBSU-45

log space, freeing DIAG-60

logging
as overhead PERF-12
decreasing rate DIAG-161
during loads DIAG-206
recovery concepts DIAG-56
running with DIAG-159
logging off the application server
OPER-11
logical data design
evaluation of PERF-141
index DBA-47
logical data maximum DBA-271
logical operator APP-41
logical operators SQLREF-89
logical storage management DIAG-43
logical unit of work
load measurement PERF-23
lock duration PERF-95
locking PERF-96
long versus short PERF-93
recovery PERF-102
storage queue PERF-46
logical unit of work (LUW) DIAG-56,
DIAG-146
logical unit of work (LUW)
See also LUW (logical unit of work)
automatic locking APP-258
automatic rollback APP-258, APP-260
avoiding short ones DIAG-159
batch considerations APP-16
CICS considerations DBA-103
CICS/VSE considerations APP-17,
APP-18, APP-153
CMS considerations APP-15, APP-19
COMMIT statement SQLREF-183
committing work done APP-19
concepts DIAG-15
counter OPER-58
CREATE PACKAGE statement
SQLREF-207
DBSS initialization DIAG-10
delaying a checkpoint OPER-68,
OPER-69
description APP-18, APP-196,
DBA-121, SQLREF-18
determination DBSU-24
DROP statement SQLREF-259
error handling APP-196
example OPER-67
Extended CLOSE statement
SQLREF-178
Extended DESCRIBE statement
SQLREF-252
Extended FETCH statement
SQLREF-288
Extended OPEN statement
SQLREF-313
Extended PREPARE statement
SQLREF-321
Extended PUT statement SQLREF-327
functional description DIAG-15
general rules DBA-123
heuristic decision SYVM-329
ICCF considerations APP-16
identifier OPER-52, OPER-66
in-doubt OPER-67, OPER-152,
SYVM-114, SYVM-98

- logical unit of work (LUW) *(continued)*
 - initiating closes cursors SQLREF-310
 - ISO-ANS SQL(89) equivalent term SQLREF-424
 - lock management OPER-163
 - management DIAG-15
 - multiple OPER-136
 - prepared statement referenced only in SQLREF-314
 - recovery DBA-121, DIAG-59
 - recovery
 - depending on STARTUP parameter SYVM-215
 - revoking privileges APP-270
 - ROLLBACK statement SQLREF-335
 - rolling back work done APP-19
 - terminating SQLREF-335
 - terminating destroys prepared statements SQLREF-316
 - use of multiple DIAG-146, DIAG-150, DIAG-206
 - use of Multiple DIAG-177
 - using extended dynamic statements APP-248
 - logical unit of work identifier (LUWID)
 - DRDA protocol DBA-113, DBA-116
 - logical unit type 6.2 (LU 6.2)
 - security DBA-81
 - LOGIO COUNTER, use of DIAG-206
 - logmode
 - changing PERF-107
 - selecting PERF-105
 - short on storage PERF-59
 - LOGMODE
 - initialization parameter PERF-103
 - LOGMODE initialization parameter OPER-183
 - LOGMODE initialization parameter
 - archiving SYVM-69, SYVM-146, SYVM-63
 - restoring SYVM-217, SYVM-160
 - switching log modes SYVM-227, SYVM-167
 - LOGmode parameter
 - preprocessor APP-130
 - LOGMODE startup parameter PERF-202
 - LOGMODE=N, use for loading
 - DIAG-207
 - LOGON procedure for implicit connect
 - DBA-97
 - LOGREAD counter OPER-59, PERF-23
 - logs
 - in DBSS DIAG-47
 - LOGWRITE counter OPER-59, PERF-23
 - long character strings in Fortran APP-373
 - long DBSS calls, possible problems
 - DIAG-207
 - long field DBA-52
 - long identifier SQLREF-37
 - long string
 - blocking restriction SQLREF-44
 - column SQLREF-44
 - CREATE TABLE statement SQLREF-229
 - description SQLREF-44, SQLREF-231
 - limitations in select-list SQLREF-123
 - long string *(continued)*
 - restriction in INSERT statement SQLREF-301
 - long strings
 - description APP-45
 - use APP-45
 - LONG VARCHAR
 - data type SQLREF-159, SQLREF-223
 - in column definition DBA-33
 - restrictions APP-45
 - restrictions
 - unions APP-90
 - LONG VARCHAR data type
 - assembler APP-317
 - C APP-346
 - COBOL APP-364
 - Fortran APP-378
 - PL/I APP-391
 - LONG VARGRAPHIC
 - data type SQLREF-159, SQLREF-224
 - in column definition DBA-33
 - restrictions APP-45
 - restrictions
 - unions APP-90
 - LONG VARGRAPHIC data type
 - assembler APP-317
 - C APP-347
 - COBOL APP-365
 - Fortran APP-378
 - PL/I APP-391
 - long-field value
 - overhead DBA-226
 - storage DBA-226
 - long-running commands, canceling
 - ISQL-15
 - low
 - selectivity, false sense of DIAG-153
 - low CPU utilization indicator
 - definition of DIAG-131
 - low CPU utilization, performance
 - problem index DIAG-141
 - low I/O rate indicator
 - definition of DIAG-131
 - LOW2KEY column SQLREF-369
 - LOW2KEY column
 - of SYSCOLUMNS SQLREF-382
 - lowercase SQLREF-35, SQLREF-36
 - lowercase characters
 - identifiers DBSU-110
 - input ISQL-35, ISQL-129
 - LPAGBUFF OPER-59
 - LPAGBUFF counter PERF-23
 - LPAGBUFF counter
 - use in buffer hit ratio DIAG-155, DIAG-157
 - LRB (lock request block)
 - NLRBS initialization parameter OPER-185
 - number per user OPER-185
 - usage OPER-103
 - LRB (see lock request block) DIAG-214
 - LTIMELN parameter of exec DBA-255
 - LTIMEOUT OPER-59
 - LTIMEOUT initialization parameter
 - OPER-184
 - LU 6.2 LUWID
 - DRDA handshaking PERF-109
 - LUW
 - See also* logical unit of work
 - See also* logical unit of work (LUW)
 - explicit termination DIAG-18, DIAG-19
 - LUW (logical unit of work)
 - AUTOCOMMIT setting ISQL-29, ISQL-30
 - canceling ISQL-14
 - LUW termination
 - implicit DIAG-18, DIAG-19
- ## M
- MACHINE directory statement PERF-178
 - machine, virtual
 - database OPER-8
 - user OPER-8
 - macro
 - ARISCCS SYVM-58
 - MACRO
 - ARIRCAN SYVM-368
 - ARISDBG SYVM-292
 - ARISDTM SYVM-353, SYVM-362
 - ARISNLSC SYVM-174, SYVM-190, SYVM-335
 - ARISSEGC SYVM-186, SYVM-187
 - ARISSEGC
 - SQLBOOTS EXEC SYVM-470
 - macroinstruction, CICS
 - DFHPCT DBA-128
 - DFHSIT DBA-128
 - mailbox functions
 - resource adapter interaction DIAG-24
 - main storage PERF-166
 - main storage
 - buffer pool PERF-87
 - dedicating PERF-43
 - load measurement PERF-17
 - page count PERF-15
 - temporary CICS PERF-81
 - virtual addressability extension
 - PERF-80
 - virtual disk PERF-48, PERF-54
 - main variable APP-55, APP-312, APP-332, APP-354, APP-371, APP-383
 - main variable
 - description SQLREF-68
 - MAINT machine
 - installation PERF-171
 - overview PERF-171
 - virtual storage PERF-172
 - MAINT program SYVM-213, SYVM-218
 - maintaining
 - accounting data SYVM-258, SYVM-202
 - storage pools SYVM-157, SYVM-133
 - maintenance
 - application program DBA-176
 - database DBA-57, DBA-77
 - database consistency DBA-174
 - dbspace DBA-73
 - index DIAG-192
 - procedure for a database DBA-77
 - statistics PERF-137
 - table DBA-59

maintenance procedures for a database SYVM-119
 maintenance, package SQLREF-10
 major control blocks DIAG-294
 making key columns smaller DIAG-166
 making the HELPTTEXT dbspace larger DBA-145
 management of storage DIAG-43
 managing
 storage pools SYVM-155, SYVM-131
 managing stored procedure servers DBA-213
 managing your own table ISQL-75
 manipulating a cursor APP-34
 manipulation commands, CMS files SYVM-290
 manual
 organization PERF-vii
 prerequisite PERF-viii
 who should use PERF-vii
 manually resolving in-doubt logical units of work OPER-153
 many-to-many relationship DBA-3
 many-to-one relationship DBA-3
 mapped DBNAME SYVM-23
 mapping
 choosing PERF-202, PERF-205
 understanding PERF-163
 MAPPING
 initialization parameter OPER-196
 mapping DBSPACES to DASD DIAG-47
 mapping macro
 ARIBFPPB SYVM-374, SYVM-294
 master profile routine ISQL-67
 MASTERPW password OPER-194
 matched index PERF-124
 materials
 for reporting a problem DIAG-102
 to send to IBM DIAG-102
 to send to IBM environments DIAG-104
 matrix, SHOW LOCK MATRIX command OPER-103
 MAX
 comparison rules SQLREF-53
 function SQLREF-93
 MAXCONN PERF-29
 MAXCONN
 decreasing DIAG-232
 increasing DIAG-150
 increasing virtual storage PERF-47
 pseudo agent PERF-91
 MAXCONN parameter SYVM-275
 MAXCONN parameter
 controlling overloading SYVM-62
 inter-machine communications SYVM-95
 new databases SYVM-285
 MAXDBSPC control statement
 during database generation SYVM-221
 establishing database maximums SYVM-18, SYVM-17
 estimating SYVM-18, SYVM-18
 MAXDBSPC keyword control statement
 default SYVM-295
 SQLDBGEN SYVM-294
 MAXEXTNT control statement
 during database generation SYVM-221
 establishing database maximums SYVM-18, SYVM-17
 estimating SYVM-18, SYVM-18
 MAXEXTNT keyword control statement
 default SYVM-295
 SQLDBGEN SYVM-294
 maximum
 column
 index DBA-271
 ISQL query DBA-271
 SELECT-list DBA-271
 table DBA-271
 view DBA-271
 foreign keys per table DBA-271
 indexes per database DBA-271
 indexes per table DBA-271
 joins APP-70
 length
 index key DBA-271
 ISQL command (bytes) DBA-271
 row DBA-271
 logical data limits DBA-271
 programs per database DBA-271
 tables per database DBA-271
 tables per dbspace DBA-271
 values for ISQL DBA-271
 views per database DBA-271
 maximum number of DATALOAD commands per INFILE DBSU-41
 maximum values
 database SYVM-18, SYVM-17
 database size SYVM-15, SYVM-15
 system SYVM-445, SYVM-357
 MAXPOOLS
 keyword PERF-59
 MAXPOOLS control statement
 during database generation SYVM-221
 establishing database maximums SYVM-18, SYVM-17
 estimating SYVM-18, SYVM-18
 MAXPOOLS keyword control statement
 default SYVM-295
 SQLDBGEN SYVM-294
 MBCS (multi-byte characters) SQLREF-47
 MCCSIDGRAPHIC SYVM-34, SYVM-35, SYVM-323, SYVM-41, SYVM-42, SYVM-249
 MCCSIDMIXED SYVM-34, SYVM-35, SYVM-323, SYVM-41, SYVM-42, SYVM-249
 MCCSIDSBCS SYVM-34, SYVM-35, SYVM-323, SYVM-41, SYVM-42, SYVM-249
 MDISK control statements
 allocating dbextent minidisks SYVM-158
 directory size SYVM-14
 MDISK statements
 adding dbextents SYVM-157
 measurement
 production system PERF-6
 relative nature PERF-6
 test system PERF-6
 measurement (*continued*)
 to indicators PERF-15
 tools PERF-7, PERF-8
 tools
 catalog table PERF-8
 CICS PERF-8
 CICS monitoring facility PERF-8
 CICS statistics PERF-8
 CICSPARS PERF-8
 CIRD transaction PERF-8
 COUNTER operator command PERF-9
 CP INDICATE USER PERF-8
 CP monitor PERF-7
 CP QUERY TIME PERF-8
 database manager PERF-19
 DB2 Server DSS COUNTER POOL PERF-9
 DB2 Server DSS SHOW TARGETWS PERF-9
 DB2 Server for VSE & VM PERF-8
 DB2 Server for VSE & VM accounting PERF-9
 DB2 Server for VSE & VM trace PERF-9
 IBM DB2 for VM Control Center PERF-9
 initialization parameter PERF-8
 operating system PERF-14
 RTM VM/ESA PERF-8
 SHOW operator command PERF-9
 VM PERF-7
 VM/PRF PERF-7
 VMMAP PERF-8
 VSAM LISTCAT PERF-8
 VSE PERF-8
 VSE interactive interface PERF-8
 measuring performance PERF-13
 media recovery OPER-154
 megabytes of data on 4-kilobyte pages SYVM-431, SYVM-343
 members, source OPER-5
 members, source
 A-type OPER-5
 cataloging example OPER-6
 memo-to-users PERF-175
 memory, when to add DIAG-156, DIAG-213
 merge scan join PERF-134
 merging data from multiple tables DBA-63
 merging results of queries APP-89
 message DIAG-85
 message
 alternate language ISQL-58
 ARI0039E SYVM-72, SYVM-66
 ARI0041E SYVM-72, SYVM-66
 ARI0915I SYVM-149, SYVM-127
 ARI7044I SYVM-72
 choosing a national language for SYVM-332, SYVM-259
 description ISQL-8, ISQL-9
 ISQL status ISQL-12
 loading message file SYVM-335
 multiple language messages SYVM-332, SYVM-259

message (*continued*)

- multiple national languages SYVM-306, SYVM-232
- SET LANGUAGE command SYVM-60, SYVM-53

message ARI0126E DIAG-237

message ARI0126E

- See* recovering from DBSS errors

message file

- errors DBSU-224
- example DBSU-96
- working with DBSU-17

message file display

- embedded data DBSU-161

message handling, Resource Adapter

- relationship with DSC DIAG-24
- relationship with RDS DIAG-24

message traffic

- fetch and insert blocking PERF-83

messages

- error OPER-4
- national language OPER-20, OPER-56

MESSAGES control parameter DBSU-116

methods of dispatching SYVM-66, SYVM-60

microcode assists PERF-2

MICROSECOND

- function SQLREF-106
- labeled duration SQLREF-71, SQLREF-75

MICROSECONDS

- labeled duration SQLREF-71

migrating from a VSE operating system SYVM-39

migration

- CCSID considerations SYVM-33, SYVM-40
- CHARNAME considerations SYVM-33, SYVM-40
- considerations SYVM-31, SYVM-39
- conversion of packages SYVM-33, SYVM-40
- databases
 - multiple SYVM-39, SYVM-46
- defaults
 - changing CCSID SYVM-306, SYVM-232
 - changing CHARNAME SYVM-306, SYVM-232
- directory space verification SYVM-32, SYVM-40
- elimination of SET XPCC command SYVM-40
- handling mixed data SYVM-35, SYVM-42
- handling SBCS data SYVM-34, SYVM-41
- HELPTXT dbspace SYVM-32, SYVM-39
- index considerations DBA-53
- invalid indexes SYVM-32, SYVM-40
- MCCSIDGRAPHIC SYVM-34, SYVM-35, SYVM-41, SYVM-42
- MCCSIDMIXED SYVM-34, SYVM-35, SYVM-41, SYVM-42
- MCCSIDSBCS SYVM-34, SYVM-35, SYVM-41, SYVM-42

migration (*continued*)

- mixed primary keys SYVM-36, SYVM-43
- planning SYVM-1, SYVM-31, SYVM-39
- resource names SYVM-45
- server name SYVM-40
- setting an application requester
 - default CCSID SYVM-36, SYVM-45
- setting an application requester
 - default CHARNAME SYVM-36, SYVM-45
- setting an application server default
 - CCSID SYVM-33, SYVM-40
- setting an application server default
 - CHARNAME SYVM-33, SYVM-40
- VM/SP to a VM/ESA operating system SYVM-45
- VM/XA operating system to a VM/ESA operating system SYVM-41
- VSE guest sharing SYVM-40
- VSE to a VM operating system SYVM-31, SYVM-39

MIN

- comparison rules SQLREF-53
- function SQLREF-94

mini-dump DIAG-278

minidisk

- 4 096-byte blocks SYVM-427
- 512-byte blocks SYVM-427
- caching PERF-78
- damaged
 - database SYVM-197
 - database and log SYVM-198
 - log SYVM-198
- DASD storage requirements for system minidisks SYVM-6
- database SYVM-7
- defining SYVM-284
- defining
 - dbextents SYVM-157
 - example SYVM-285
- directory SYVM-7
- formatting SYVM-290
- log SYVM-232
- passwords SYVM-94, SYVM-285
- primary production SYVM-273
- production SYVM-5
- protecting SYVM-139
- replacing SYVM-223
- required for a database machine SYVM-5
- requirements for the user facility subset SYVM-8
- reserving SYVM-290
- secondary production SYVM-273
- service SYVM-6
- service machine SYVM-8
- starter database SYVM-7, SYVM-9
- system SYVM-5
- user machine SYVM-8
- user machine
 - requirements SYVM-8
- work SYVM-6

minidump OPER-147

minimum

- content of a table ISQL-78
- minimum lock level PERF-96
- minimum sizes
 - for a starter database SYVM-9

MINUTE

- function SQLREF-106
- labeled duration SQLREF-71, SQLREF-75

MINUTES

- labeled duration SQLREF-71

missing output DIAG-98

mixed data

- ASCII SQLREF-46
- COMMENT ON statement
 - SQLREF-180, SQLREF-181
- conditions SQLREF-46
- CREATE TABLE statement
 - SQLREF-224
- DBCS and EBCDIC DBSU-171
- description SQLREF-45
- EBCDIC SQLREF-46
- EUC SQLREF-46
- handling after migration SYVM-35, SYVM-42
- in LIKE predicate SQLREF-87
- LABEL ON statement SQLREF-305
- MBCS SQLREF-46
- MCCSIDGRAPHIC SYVM-35, SYVM-323, SYVM-42, SYVM-249
- MCCSIDMIXED SYVM-35, SYVM-323, SYVM-42, SYVM-249
- MCCSIDSBCS SYVM-35, SYVM-323, SYVM-42, SYVM-249
- representation conventions SQLREF-6
- rules SQLREF-45, SQLREF-46
- SQLDA SQLREF-361
- string assignments SQLREF-55, SQLREF-56
 - using SYVM-316, SYVM-243

MIXED data subtype DBA-34

mixed INFILE records to separate tables DBSU-38

mixing isolation levels APP-137, APP-173

mode

- display ISQL-13, ISQL-33
- wait ISQL-13, ISQL-33

MODE keyword

- description SQLREF-307
- IN SHARE MODE clause
 - of LOCK DBSPACE statement SQLREF-306
 - of LOCK TABLE statement SQLREF-307

mode option, CIRR transaction OPER-35

mode switching for logs SYVM-227, SYVM-231, SYVM-167, SYVM-172

modeling data designs DBA-162

modes

- CIRT transaction OPER-30
- database OPER-195
- lock OPER-102
- multiple user mode OPER-8
- single user mode OPER-8

modes of operation

- multiple user mode SYVM-47
- single user mode SYVM-47

- MODIFY option
 - of CREATE PACKAGE statement SQLREF-205
 - of DROP STATEMENT statement SQLREF-263
 - modifying
 - locked dbspace APP-255
 - tables through a view APP-64
 - the online HELP in the database DBA-139
 - modifying table designs PERF-154
 - modifying the separation between columns ISQL-40, ISQL-56
 - module
 - bootstrap SYVM-174
 - SQLDBBT SYVM-175
 - SQLISBT SYVM-175
 - SQLRMBT SYVM-175
 - module address OPER-69
 - module not found APP-142, APP-178
 - Monitor Analysis Program (VMMAP) PERF-8
 - monitor, CP PERF-7
 - monitoring
 - CICS/VS monitoring facility OPER-57
 - cost PERF-6
 - dbspace page consumption OPER-85
 - interval PERF-6
 - master schedule PERF-6
 - plan PERF-6
 - plan
 - performance PERF-2, PERF-6
 - real time PERF-5
 - statistical PERF-5
 - MONTH
 - function SQLREF-107
 - labeled duration SQLREF-71, SQLREF-74
 - MONTHS
 - labeled duration SQLREF-71
 - more than one keyword with FORMAT command ISQL-51
 - most recently used pages PERF-45
 - MOVEFILE
 - restriction SYVM-141
 - moving
 - data with INSERT command ISQL-78
 - dbextents SYVM-168, SYVM-140, SYVM-164
 - log disks SYVM-170, SYVM-141
 - through a query result
 - backward ISQL-22, ISQL-99
 - forward ISQL-20, ISQL-116
 - left ISQL-25, ISQL-119
 - right ISQL-23, ISQL-126
 - Moving
 - dbextents SYVM-169
 - moving a database
 - from one user ID to another SYVM-47
 - using the SQLDBDEF utility SYVM-46
 - moving the HELP text to another dbspace DBA-147
 - moving the logs SYVM-231
 - multicolumn key DBA-5, DBA-47
 - multicolumn key
 - considerations DBA-52
 - multiple
 - database DBA-193
 - row
 - query results APP-33
 - tables in a view DBA-43
 - user mode DBA-194
 - multiple database migration SYVM-39, SYVM-46
 - multiple database mode, to avoid paging effects DIAG-221
 - multiple foreign keys SQLREF-13
 - multiple join PERF-136
 - multiple language HELP text ISQL-16, SYVM-306, SYVM-232
 - Multiple Language HELP Text Support DBA-139
 - multiple language messages SYVM-306, SYVM-332, SYVM-232, SYVM-259
 - multiple logical units of work OPER-136
 - multiple logs, specifying OPER-181
 - multiple LUWs
 - to avoid excessive locking DIAG-177
 - to avoid lock contention DIAG-206
 - to reduce link waits DIAG-150
 - to reduce lock waits DIAG-146
 - multiple path
 - delete-connected SQLREF-14
 - multiple queries, use of DIAG-196
 - multiple row results APP-33
 - multiple tables DBSU-40
 - multiple user access SYVM-267
 - multiple user job control DBSU-108
 - multiple user mode APP-112, DIAG-13, DIAG-14, OPER-8
 - multiple user mode
 - definition SYVM-53, SYVM-47
 - DSC DIAG-13, DIAG-14
 - executing applications APP-145
 - initialization parameters SYVM-54, SYVM-47
 - invoking the preprocessors APP-114, APP-154, APP-156
 - job control SYVM-69
 - job control to start the application server SYVM-69
 - operating the application server SYVM-47
 - running DBSU-7
 - running application programs SYVM-80, SYVM-70
 - starting DB2 Server for VM PERF-184, PERF-186
 - starting the application server SYVM-47
 - starting the application server with password protected data sets SYVM-51
 - startup using a CMS file SYVM-56
 - multiple user mode (MUM)
 - allocating user to agents PERF-89
 - blocking PERF-110
 - running PERF-93
 - multiple virtual machine mode
 - definition SYVM-53, SYVM-47
 - multiple-partition mode
 - locking considerations APP-258
 - multiple-row query DBSU-22
 - multiplication in SQL expressions APP-52
- ## N
- NACTIVE
 - large values DIAG-200
 - NACTIVE column
 - of SYSDBSPACES DBA-145
 - name
 - application server SYVM-23, SYVM-23
 - changing SYVM-45
 - column
 - changing display ISQL-43
 - description ISQL-1
 - database SYVM-23, SYVM-23
 - server-name OPER-194
 - table ISQL-1
 - NAME column SQLREF-369
 - NAME column
 - of SYSCHARSETS SQLREF-379
 - of SYSUSERAUTH and SYSUSERLIST SQLREF-406
 - NAME option of FORMAT command
 - description ISQL-43
 - using several keywords ISQL-46, ISQL-52
 - NAMED clause
 - of ACQUIRE DBSPACE statement SQLREF-145
 - NAMEFIND
 - restrictions SYVM-11
 - storage fragmentation SYVM-11
 - NAMES
 - in USING clause
 - of DESCRIBE statement SQLREF-248
 - of Extended DESCRIBE statement SQLREF-252
 - names and identifiers
 - command DBSU-110
 - NAMESYS macro
 - example SYSNAME values SYVM-179
 - naming
 - column APP-25
 - data object APP-25
 - dbspace APP-25
 - index APP-25
 - table APP-25
 - naming a table DBA-28
 - naming conventions
 - SQL SQLREF-38
 - naming conventions, changing
 - DIAG-164, DIAG-182
 - national language SYVM-305, SYVM-337, SYVM-231
 - national language
 - character set SYVM-305, SYVM-231
 - character set
 - choosing OPER-180
 - choosing SYVM-305, SYVM-231
 - keys and identifiers SYVM-334, SYVM-261
 - messages
 - and HELP text SYVM-332, SYVM-259
 - remote support SYVM-271

national language (*continued*)
 messages (*continued*)
 VSE guest sharing SYVM-335,
 SYVM-262
 online support OPER-20
 SET LANGUAGE operator command
 OPER-56
 support SYVM-305, SYVM-231
 SYSLANGUAGE table SYVM-334,
 SYVM-260
 NCOLS column SQLREF-369
 NCOLS column
 of SYSCATALOG SQLREF-375
 NCSCANS initialization parameter
 OPER-184, SYVM-67, SYVM-60
 NCUSERS
 buffer pool PERF-87
 deadlock PERF-101
 decreasing DIAG-158, DIAG-231
 determining number of real agents
 PERF-89
 example PERF-29
 increasing DIAG-150
 increasing virtual storage PERF-47
 limit SYVM-62, SYVM-445, SYVM-56,
 SYVM-357
 lock contention PERF-96
 number of real agents PERF-88
 package cache PERF-88
 RMTUSERS PERF-92
 too high DIAG-230
 NCUSERS initialization parameter
 OPER-184
 NCUSERS initialization parameter
 guidelines SYVM-62, SYVM-56
 setting SYVM-62, SYVM-56
 VSE guest sharing SYVM-62,
 SYVM-56
 NDIRBUF
 directory buffer PERF-87
 directory buffer pool PERF-85
 increasing virtual storage PERF-47
 large enough DIAG-167
 too big DIAG-155
 too small DIAG-157
 NDIRBUF initialization parameter
 OPER-184, SYVM-64, SYVM-57
 negative SQLCODE
 description APP-11, APP-196
 nested loop join PERF-133
 nesting correlated subqueries APP-85
 network
 distributed PERF-83
 national language support SYVM-271
 response time PERF-4
 SNA PERF-81
 NEW
 bind parameter APP-148
 NEW option
 of CREATE PACKAGE statement
 SQLREF-206
 NEW parameter
 RELOAD DBSPACE command
 DBSU-192
 RELOAD TABLE DBSU-197
 new user support DBA-81
 NEXT DIAG-71

NHEADER
 ACQUIRE DBSPACE APP-256
 changing DBA-73
 determining DBA-24
 NHEADER clause
 of ACQUIRE DBSPACE statement
 SQLREF-146
 NLEAF column SQLREF-369
 NLEAF column
 of SYSINDEXES SQLREF-389
 NLEVELS column SQLREF-369
 NLEVELS column
 of SYSINDEXES SQLREF-389
 NLRB parameters
 decreasing DIAG-214
 increasing DIAG-216
 too large DIAG-213
 too small DIAG-215
 NLRBS
 increasing DIAG-216
 increasing virtual storage PERF-47
 initialization parameter PERF-99
 too large DIAG-214
 too small DIAG-215
 NLRBS initialization parameter
 OPER-185, SYVM-64, SYVM-58
 NLRBU
 increasing DIAG-216
 increasing virtual storage PERF-47
 initialization parameter PERF-99
 too large DIAG-214
 too small DIAG-215
 NLRBU initialization parameter
 OPER-185, SYVM-64, SYVM-58
 no error codes, but problem exists
 fetch with cursor stability DIAG-127
 lockout with cursor stability
 DIAG-127
 NO RESPONSE DIAG-97
 NO RESPONSE
 wait or loop DIAG-97
 NOBIND preprocessor parameter
 APP-119, APP-162
 NOBLOCK option
 of CREATE PACKAGE statement
 SQLREF-204
 NOBLock preprocessor parameter
 APP-120
 NOCHECK
 bind parameter APP-149
 NOCHECK option
 of CREATE PACKAGE statement
 SQLREF-204
 NOCHECK preprocessor parameter
 APP-163
 NOCLOSE option of TRACE command
 OPER-165
 NODESCRIBE option
 of CREATE PACKAGE statement
 SQLREF-205
 NOEXIST option
 of CREATE PACKAGE statement
 SQLREF-205
 NOEXIST preprocessor parameter
 APP-123, APP-164
 NOFASTTR
 job control option PERF-79

NOFOR option
 UPDATE statement SQLREF-343
 NOFOR preprocessor parameter
 APP-123, APP-164
 NOGRaphic preprocessor parameter
 APP-124, APP-165
 NOLINKS
 decreasing DIAG-231
 increasing DIAG-150
 too few agents DIAG-228, DIAG-230
 nolinks option
 CIRA transaction OPER-33
 CIRB transaction OPER-19
 NOLOG job control statement APP-160
 NOMODIFY option
 of CREATE PACKAGE statement
 SQLREF-205
 non-DB2 Server for VM application
 server
 DBS utility SYVM-400, SYVM-323
 ISQL SYVM-401
 non-IBM products SYVM-6
 non-SQL work
 possible CPU usage problems
 DIAG-212
 possible paging problems DIAG-213,
 DIAG-231
 non-unique index, key locking DIAG-164
 non-XC mode
 database machine PERF-171
 hardware PERF-175
 SQL/DS directory PERF-200
 verify PERF-184
 nonexecutable SQL statements APP-12
 nonexecutable statement SQLREF-140,
 SQLREF-141
 nonrecoverable data SYVM-243,
 SYVM-179
 nonrecoverable data
 backing out SYVM-242, SYVM-179
 committing SYVM-241, SYVM-178
 dbspaces SYVM-241, SYVM-178
 restoring SYVM-243, SYVM-180
 rolling back SYVM-241, SYVM-242,
 SYVM-178, SYVM-179
 nonrecoverable dbspace
 CREATE TABLE statement
 SQLREF-227
 nonrecoverable DBSPACE
 for loading without logging
 DIAG-207
 nonrecoverable storage pool DBA-23
 nonrecoverable storage pool
 checkpoint PERF-103
 data placement SYVM-244, SYVM-181
 DATALOAD DBSU-46
 dbspace recovery DBSU-227
 dbspaces SYVM-247, SYVM-184
 description OPER-84, OPER-121
 processing errors DBSU-223
 querying SYVM-247, SYVM-184
 RELOAD PURGE DBSU-79
 UPDATE statement SQLREF-342
 nonselective index scan PERF-118
 nonunique index
 definition of DIAG-132

nonunique index *(continued)*
 key prefix
 possible I/O problems DIAG-235

nonunique key prefix
 definition of DIAG-132

NOPACKAGE preprocessor parameter
 APP-125, APP-166

NOPrint preprocessor parameter
 APP-125, APP-166

NOUnch preprocessor parameter
 APP-125, APP-166

NOREWIND parameter DBSU-141,
 DBSU-162

NOREWIND parameter, DATAUNLOAD
 DBSU-178

normal application server
 online support shutdown OPER-30
 shutdown OPER-14

normal DB2 Server for VM shutdown
 SYVM-93

normal form
 first DBA-9
 fourth DBA-11
 second DBA-9
 third DBA-10

normalization guidelines DBA-29

normalizing a table DBA-9

NOSEQUence preprocessor parameter
 APP-126, APP-166

NOSQLCA
 preprocessor parameter APP-126
 support APP-127, APP-167, APP-196

NOT
 in a search condition SQLREF-89

NOT EXISTS predicate APP-88

NOT FOUND clause
 of WHENEVER statement
 SQLREF-347

not found SQLCODE (100)
 FETCH APP-35

NOT IN predicate APP-79

NOT keyword
 concatenation APP-41
 in EXISTS predicate SQLREF-83
 in LIKE predicate SQLREF-86

NOT NULL clause
 of CREATE TABLE statement
 SQLREF-224

NOT NULL option ISQL-78

NOT NULL option
 of CREATE TABLE DBA-31

notification of records reloaded DBSU-80

NOVERFLOW PERF-38

NOVERFLOW column SQLREF-369

NOVERFLOW column
 of SYSCATALOG SQLREF-377

NPACKAGE
 increasing virtual storage PERF-47
 package cache PERF-88

NPACKAGE initialization parameter
 OPER-185

NPACKAGE parameter SYVM-63,
 SYVM-56

NPACKPCT
 package cache PERF-88

NPACKPCT initialization parameter
 OPER-185

NPACKPCT parameter SYVM-63,
 SYVM-57

NPAGBUF
 increasing virtual storage PERF-47
 local buffer PERF-87
 local buffer pool PERF-85
 too big DIAG-155
 too small DIAG-157

NPAGBUF initialization parameter
 OPER-186, SYVM-63, SYVM-57

NPAGBUF parameter SYVM-63,
 SYVM-57

NPAGES column SQLREF-369

NPAGES column
 of SYSCATALOG SQLREF-377
 of SYSDBSPPACES SQLREF-385

NRHEADER column SQLREF-369

NRHEADER column
 of SYSDBSPPACES SQLREF-385

NTABS column SQLREF-369

NTABS column
 of SYSDBSPPACES SQLREF-384

NUCEXT QUERY
 used by database manager SYVM-83

NUCXDROP
 used by database manager SYVM-83

NUCXLOAD
 used by database manager SYVM-82,
 SYVM-83

NUL-terminated strings and truncation
 C APP-340

null PERF-39

null
 DATALOAD DBSU-36
 foreign key DBA-8
 in omitted columns during
 DATALOAD DBSU-30
 representation in unloaded data
 DBSU-188
 value DBA-4, DBA-31

NULL
 keyword
 in INSERT statement SQLREF-299
 in UPDATE statement
 SQLREF-340, SQLREF-341

predicate
 description SQLREF-89
 NOT keyword SQLREF-89
 null value SQLREF-89

null attribute of result column
 SQLREF-123

null foreign key SQLREF-13

null id string OPER-66

NULL option
 FORMAT command ISQL-54,
 ISQL-113
 LIST command ISQL-120
 SET command ISQL-59
 SET command
 description ISQL-57
 displayed character ISQL-57
 reference ISQL-131

null value APP-86

null value
 assign to database SQLREF-52
 assigned to host variable SQLREF-338
 assignment SQLREF-53

null value *(continued)*
 attribute of a result column
 SQLREF-123
 checking SQLREF-52
 controlling what is displayed ISQL-54,
 ISQL-57
 CREATE INDEX statement
 SQLREF-199
 definition SQLREF-43
 duplicate rows SQLREF-122
 elimination with VALUE function
 SQLREF-117
 equality and ordering SQLREF-52
 for added column ISQL-79
 formatting field ISQL-54
 formatting with null field ISQL-53
 grouping columns SQLREF-126
 grouping queries APP-72
 in expression or predicate SQLREF-52
 indicator variables APP-59, APP-61
 joins APP-68
 preventing occurrences of in a table
 ISQL-78
 return from database SQLREF-52
 search conditions APP-41
 setting characters displayed
 query result ISQL-113
 terminal session ISQL-57,
 ISQL-131

null-clause
 examples DBSU-176

null/current clause
 example DBSU-158
 TCI subcommand DBSU-155

nullifying input
 BACKOUT ISQL-98

NULLS column SQLREF-369

NULLS column
 of SYSCOLUMNS SQLREF-382

number of items in a select list
 ISO-ANS SQL(89) equivalent term
 SQLREF-424

numbers SQLREF-47

numeric
 assignments
 COBOL integer SQLREF-55
 decimal SQLREF-54
 floating-point SQLREF-54
 integer SQLREF-54

comparisons
 decimal SQLREF-58
 floating-point SQLREF-58
 integer SQLREF-58

expression SQLREF-73

field punctuation ISQL-56

representation in unloaded data
 DBSU-188

values in CHAR input data fields
 DBSU-149

NUMERIC
 See DECIMAL APP-45

numeric conversion
 DRDA SQLREF-29

NUMERIC data type
 See also DECIMAL data type
 synonym for DECIMAL data
 SQLREF-159, SQLREF-223

numeric data types DBA-32
 numeric host variable SQLREF-48

O

object
 in a database DBA-17
 security DBA-89
 object name
 qualification DBSU-110
 object table SQLREF-66
 objectives
 performance PERF-2, PERF-4
 objects SYVM-143, SYVM-123
 obtaining costs for statements PERF-151
 occurrence of an entity DBA-1
 offnames;
 link maps and access DIAG-282
 trace facility DIAG-300
 omitting column from a display ISQL-41,
 ISQL-110
 ON clause
 of CREATE INDEX statement
 SQLREF-200
 of GRANT statement SQLREF-294,
 SQLREF-295
 of REVOKE statement SQLREF-331,
 SQLREF-332
 ON DELETE clause
 of ALTER TABLE statement
 SQLREF-162
 of CREATE TABLE statement
 SQLREF-222, SQLREF-226
 one-phase commit SYVM-109, SYVM-93
 one-time query DBA-151
 one-to-many relationship DBA-3
 one-to-one relationship DBA-2
 online
 application recovery DBA-127,
 DBA-172
 application security DBA-171
 HELP DBA-139
 log archive OPER-50
 reference information
 HELP command ISQL-117
 HELP text ISQL-15
 introduction ISQL-2
 setting isolation level ISQL-88
 status information OPER-20
 transaction consideration DBA-171
 transaction processing DBA-150,
 DBA-204
 online applications
 See CICS/VSE
 online environment
 See CICS/VSE
 online programs
 See CICS/VSE
 online resource adapter OPER-31,
 OPER-32, OPER-36, SYVM-102,
 SYVM-119, SYVM-130, SYVM-132,
 SYVM-86, SYVM-103, SYVM-114,
 SYVM-116
 online resource adapter data areas
 RMAR SYVM-289
 RMXC SYVM-366
 online support
 CIRB transaction options OPER-18

online support (*continued*)
 considerations for stopping SYVM-80
 definition OPER-1
 implicit CONNECT support
 SYVM-104, SYVM-88
 monitoring OPER-20
 online resource adapter OPER-18
 operation SYVM-98, SYVM-82
 resource adapter OPER-19
 starting OPER-18, SYVM-100,
 SYVM-83
 stopping OPER-29, SYVM-128,
 SYVM-112
 VSE guests OPER-17
 online support for VSE guest sharing
 considerations for stopping SYVM-94
 online support parameters OPER-18,
 OPER-38
 online transaction processing
 configuration SYVM-2
 ONLY option
 FORMAT command ISQL-42
 OP Codes DIAG-298
 OPEN
 description APP-34
 format APP-34
 OPEN SCAN DIAG-71
 open state of a cursor APP-33
 open state of cursor
 FETCH statement SQLREF-285
 OPEN statement SQLREF-308
 OPEN statement
 description SQLREF-308
 dynamic select SQLREF-142
 select-statement invocation
 SQLREF-140
 SQLDA SQLREF-359
 SQLLEN value SQLREF-362
 SQLTYPE value SQLREF-362
 static select SQLREF-142
 OPEN statement, Extended SQLREF-313
 operand
 datetime SQLREF-74
 decimal SQLREF-73
 floating-point SQLREF-74
 integer SQLREF-73
 string SQLREF-72
 operating
 console SYVM-53
 DB2 Server for VMoperator SYVM-53
 mode
 XA PERF-47
 XC PERF-47
 modes SYVM-47
 multiple databases SYVM-53
 multiple user mode SYVM-47
 online support SYVM-98, SYVM-82
 planning SYVM-53, SYVM-47
 system measurements PERF-14
 VSE guest sharing SYVM-98,
 SYVM-82
 operating environments OPER-v
 operating mode DBA-194
 operating mode
 changing SYVM-90

operating modes
 modes supported
 370 mode SYVM-1, SYVM-90
 XA mode SYVM-1, SYVM-89,
 SYVM-90
 XC mode SYVM-1, SYVM-89,
 SYVM-90
 XA mode SYVM-340
 XC mode SYVM-340
 operating system
 non-XC mode PERF-171
 requirement PERF-171
 operating systems OPER-v
 operating systems
 overview SYVM-1
 operating the application server OPER-1,
 OPER-43
 operation
 assignment SQLREF-53, SQLREF-57
 comparison SQLREF-57, SQLREF-59
 description SQLREF-53
 precedence SQLREF-78
 operational characteristic
 listing ISQL-59, ISQL-120
 setting ISQL-129
 operational characteristics
 See query format characteristics
 operations in SQL SQLREF-53
 operator
 application server OPER-43
 arithmetic APP-52, SQLREF-73
 command PERF-25, PERF-33
 comparison APP-42
 DB2 Server for VSE & VM system
 OPER-v
 logical APP-41
 operator agent OPER-65, PERF-88
 operator agent
 storage queue PERF-46
 operator command
 ALTACCT OPER-45
 ARCHIVE OPER-46
 COUNTER OPER-58
 FORCE OPER-52, OPER-67
 FORCE RMTUSER OPER-54
 issuing OPER-43
 LARCHIVE OPER-50
 RESET OPER-61
 RESET CRR LOGNAMES OPER-62
 RESET HIGHSTOR OPER-62
 RESET INDOUBT OPER-63
 SET OPER-63
 SET APPCVM OPER-17
 SET LANGUAGE OPER-56
 SHOW ACTIVE OPER-65
 SHOW ADDRESS OPER-69
 SHOW BUFFERS OPER-70
 SHOW CONNECT OPER-73
 SHOW CRR LOGNAMES OPER-80
 SHOW DBCONFIG OPER-81
 SHOW DBEXTENT OPER-84
 SHOW DBSPACE OPER-85
 SHOW INDOUBT OPER-87
 SHOW INITPARM OPER-89
 SHOW INVALID OPER-90
 SHOW LOCK ACTIVE OPER-93
 SHOW LOCK DBSPACE OPER-96

operator command (*continued*)
 SHOW LOCK GRAPH OPER-98
 SHOW LOCK MATRIX OPER-103
 SHOW LOCK USER OPER-106
 SHOW LOCK WANTLOCK
 OPER-108
 SHOW LOG OPER-50, OPER-113
 SHOW LOGHIST OPER-114
 SHOW POOL OPER-118
 SHOW STORAGE OPER-130
 SHOW SYSTEM OPER-133
 SQLEND OPER-11
 syntax OPER-viii
 TRACE OPER-161

operator commands OPER-199

operator commands
 COUNTER ISQL-104
 ending ISQL-106, ISQL-107
 layouts of responses to special
 operator commands DIAG-318,
 DIAG-322
 SHOW ISQL-134

operator console messages DBSU-223

operator console system, issuing operator
 commands OPER-43

operator ID APP-153, DBA-103

operator response during restore
 CONTINUE SYVM-217, SYVM-160
 END RESTORE SYVM-218,
 SYVM-161
 STOP SYSTEM SYVM-217, SYVM-160

OPT trace OPER-164, OPER-192

optimization
 functional description DIAG-37

optimizer PERF-117

optimizer
 tracing OPER-164, OPER-192

OPTION LOG job control statement
 APP-160

OPTION NOLOG job control statement
 APP-160

OPTION statement for accounting
 SYVM-249

optional
 default parameter
 in syntax diagrams APP-xii,
 DBA-xv, DBSU-xv, DIAG-xiii,
 ISQL-xiv, OPER-xi, PERF-xi,
 SQLREF-4, SYVM-xiv,
 SYVM-xiii
 installation steps PERF-187

item
 in syntax diagrams APP-x,
 DBA-xiv, DBSU-xiv, DIAG-xi,
 ISQL-xii, OPER-ix, PERF-ix,
 SQLREF-3, SYVM-xii, SYVM-xii

keyword
 in syntax diagrams APP-xii,
 DBA-xv, DBSU-xv, DIAG-xiii,
 ISQL-xiv, OPER-xi, PERF-xi,
 SQLREF-4, SYVM-xiv,
 SYVM-xiii

options file, start up PERF-21

OPTIONS(MAIN) clause APP-382

OR
 in a search condition SQLREF-89
 truth table SQLREF-89

OR operator APP-41

order
 clauses APP-73
 input records DBSU-145

ORDER BY clause
 comparison rules SQLREF-53
 description APP-38
 ISO-ANS SQL(89) equivalent term
 SQLREF-424
 maximum number of columns
 SQLREF-350
 maximum total length of columns
 SQLREF-350
 of select-statement SQLREF-133
 restriction for CREATE VIEW APP-63
 unions APP-89, APP-90

order of evaluation SQLREF-78

ORDERFIELD column SQLREF-369

ORDERFIELD column
 of SYSCOLUMNS SQLREF-382

ordering
 query results APP-38

ordinary application server
 online support shutdown OPER-30
 shutdown OPER-14

ordinary identifier
 description SQLREF-37

ordinary token
 description SQLREF-36

ORIGINAL column SQLREF-369

OS QSAM
 augmented by DB2 Server for VM
 database manager SYVM-74

OUTCCSID column SQLREF-369

OUTCCSID column
 of SYSSTRINGS SQLREF-401

outer reference
 DB2 Server for VSE & VM equivalent
 term SQLREF-423

outer table PERF-133

OUTFILE subcommand DBSU-177

OUTLINE keyword ISQL-113

outlining
 columns ISQL-111
 controlling ISQL-113
 report ISQL-47

output area
 correcting line ISQL-31
 description ISQL-11, ISQL-12

output class
 for printed reports ISQL-121
 setting for a session ISQL-129

output format DBSU-217

output host variables APP-35

output record format example DBSU-183

overcommitting dbspace storage
 SYVM-156, SYVM-132

overflow DBA-178, SQLREF-420

overflow
 catalog table PERF-62
 reorganization PERF-70
 row expansion PERF-62

OVERFLOW error in decimal arithmetic
 operation DBA-179

overhead PERF-11

override file
 example SYVM-179

overriding initialization parameters
 SYVM-56, SYVM-88, SYVM-50,
 SYVM-76

overview
 checkpoint interval PERF-166
 data space PERF-157
 database machine PERF-171
 directory PERF-164
 internal dbspace PERF-163
 logical mapping PERF-170
 MAINT machine PERF-171
 operating system PERF-171
 performance counter PERF-168
 physical mapping PERF-170
 save interval PERF-167
 storage management PERF-166
 storage pool PERF-163
 storage pool structure PERF-169
 striping PERF-167
 target working storage size parameter
 PERF-166
 working storage residence priority
 PERF-166

overview of Database Services Utility
 DBSU-3

owner
 dbspace APP-254
 description DBA-95

OWNER
 bind parameter APP-149

OWNER column SQLREF-369

OWNER column
 of SYSDBSACES SQLREF-384

owner of catalog tables (SYSTEM)
 SQLREF-369

owner of table ISQL-82

OWNER option
 of CREATE PACKAGE statement
 SQLREF-205

OWNER preprocessor parameter APP-125

owner_name
 description SQLREF-39

owning a database
 definition SYVM-266, SYVM-212

P

PA trace OPER-164, OPER-192

PA1 key ISQL-91

package SYVM-19, SYVM-153, SYVM-19,
 SYVM-129

package
 automatic regeneration APP-145,
 APP-180, APP-271
 cache PERF-88
 cache
 NCUSERS PERF-89
 threshold PERF-88
 virtual addressability extension
 PERF-80
 concepts DIAG-36
 considerations DBSU-229
 conversion SYVM-33, SYVM-40,
 SYVM-40
 CREATE PACKAGE statement
 SQLREF-202, SQLREF-207
 dbspace SYVM-153, SYVM-129

package (*continued*)

- description APP-114, APP-155, SQLREF-18
- distributing APP-147, APP-185
- DROP statement SQLREF-258, SQLREF-259
- DROP STATEMENT statement SQLREF-263
- Extended PREPARE statement SQLREF-318
- GRANT statement SQLREF-289
- invalid PERF-74
- invalidating
 - DROP DBSPACE APP-259
 - DROP VIEW APP-66
 - REVOKE APP-271
- invalidation DBSU-65, SQLREF-165, SQLREF-258, SQLREF-259
- needs re-preprocessing DIAG-217
- performance considerations DBSU-229
- performance of DBA-188
- preprocessing DBSU-83, SQLREF-165, SQLREF-263
- section SQLREF-18
- tasks DBSU-83
- unload and reload PERF-115
- unused SYVM-155, SYVM-131

PACKAGE

- bind parameter APP-148
- description DBSU-85
- portable package migration DBSU-87
- RELOAD DBSU-87
- UNLOAD DBSU-85

package cache management DIAG-40

PACKAGE clause

- of DROP statement SQLREF-258

PACKAGE preprocessor parameter APP-125, APP-166

package_id

- description SQLREF-39

package_name

- description SQLREF-39
- in DROP statement SQLREF-258
- in GRANT statement SQLREF-289
- in REVOKE statement SQLREF-328
- length limitation SQLREF-349

package_spec

- description SQLREF-39
- in CREATE PACKAGE statement SQLREF-202
- in DROP STATEMENT statement SQLREF-263
- in Extended DECLARE CURSOR statement SQLREF-241
- in Extended DESCRIBE statement SQLREF-252
- in Extended EXECUTE statement SQLREF-269
- in Extended PREPARE statement SQLREF-319

packed decimal

- input data DBSU-151
- output data DBSU-174

padding

- bit data SQLREF-55
- string SQLREF-55

page

- active in a dbspace PERF-40
- allocating from storage pool PERF-59
- available in a dbspace PERF-40
- DASD I/O system PERF-85
- DASD space DBA-19
- data
 - description PERF-60
 - free space PERF-61
 - SYS0001 SYVM-437, SYVM-349
- dbspace
 - running out PERF-65
- dbspace storage SYVM-144, SYVM-124
- dynamic allocation PERF-59
- fault
 - system paging DASD PERF-45
- free percentage PERF-40
- header APP-256, PERF-60
- header
 - SYS0001 SYVM-438, SYVM-349
- header, in a dbspace DBA-24
- index PERF-60
- index
 - reserved in a dbspace PERF-40
 - running out PERF-66
- jumps PERF-68
- logical and physical PERF-59
- map table PERF-59
- map table
 - shadow page PERF-63
- megabytes and 4-kilobyte pages SYVM-431, SYVM-343
- modified PERF-86
- most recently used PERF-45
- number used by a table PERF-39
- releasing PERF-86
- shadow
 - checkpoint PERF-63
 - description PERF-60
 - number in use PERF-64
- size PERF-58
- size of printed report ISQL-132
- stealing PERF-86
- storage PERF-43
- storage buffers SYVM-63, SYVM-57
- type PERF-60
- update PERF-63

page buffers, data OPER-186

page consumption, dbspace OPER-85

page fault processing, asynchronous PERF-197

page faults, serialization DIAG-220

PAGE lock size APP-258

page locking

- hot pages DIAG-183
- possible lock escalation problems DIAG-203, DIAG-215
- possible lock wait problems DIAG-145, DIAG-202
- to avoid escalations DIAG-204
- use of DIAG-177, DIAG-203, DIAG-204

page usage, dbspace OPER-85

PAGE value for LOCK clause

- description SQLREF-150

PAGE value for LOCK clause (*continued*)

- of ACQUIRE DBSPACE statement SQLREF-146
- of ALTER DBSPACE statement SQLREF-149

page width DBSU-219

PAGECTL control parameter DBSU-116

PAGEREAD counter OPER-59, PERF-23

PAGEREAD counter

- use in buffer hit ratio DIAG-155, DIAG-157

PAGES clause

- of ACQUIRE DBSPACE statement SQLREF-146

PAGES parameter of ACQUIRE DBSPACE APP-256

PAGESIZE keyword

- LIST command ISQL-120
- SET command ISQL-58, ISQL-132

paging

- because of code not shared DIAG-227
- because of large buffers DIAG-155
- because of large NLRB settings DIAG-214
- because of too many agents DIAG-230
- causing high CPU usage DIAG-212
- effects of DIAG-220
- performance problem index DIAG-144
- possible CPU usage problem DIAG-212
- possible problem DIAG-213
- rate, high value DIAG-155, DIAG-213

paging devices, need for more DIAG-221

paging faults, effects of DIAG-155

paging indicator

- definition of DIAG-131

PAGWRITE counter OPER-59, PERF-23

parameter

- ACCOUNT SYVM-60, SYVM-53
- adding dbspaces SYVM-146
- AMODE(24)
 - SQLSTART EXEC SYVM-78
- AMODE(31)
 - SQLSTART EXEC SYVM-78
- CHARNAME DBA-246, DBA-255, SYVM-315, SYVM-241
- database parameters set at database generation time SYVM-13, SYVM-13
- DATE DBA-255, SYVM-121, SYVM-105
- DATEFORMAT DBA-246
- DBCS DBA-246, DBA-255
- DBMODE SYVM-56
- DBNAME DBA-244, DBA-253, DBA-258
- DBNAME
 - specifying in SQLSTART SYVM-56
- SQLADBEX EXEC SYVM-162
- SQLADBSP EXEC SYVM-146
- SQLCDBEX EXEC SYVM-151, SYVM-169
- SQLDBGEN EXEC SYVM-288
- SQLDBINS EXEC SYVM-287
- SQLLOG EXEC SYVM-232
- SQLSTART EXEC parameter SYVM-78

- parameter (*continued*)
 - dcssid
 - EXEC parameter SYVM-175
 - SQLADBEX EXEC SYVM-162
 - SQLADBSF EXEC SYVM-146
 - SQLDBINS EXEC SYVM-288
 - DCSSID DBA-244, DBA-258, OPER-3
 - DCSSID
 - SQLLOG EXEC SYVM-232
 - SQLSTART EXEC SYVM-78
 - DSPSTATS SYVM-60, SYVM-54
 - DVERIFY SYVM-91, SYVM-78
 - identifier OPER-186
 - initialization OPER-3, OPER-179
 - initialization
 - overriding OPER-6
 - initialization in CMS files OPER-186
 - initialization, CMS files OPER-5
 - LDATELEN DBA-255
 - list for a field procedure DBA-35
 - LOCK DBA-26, DBA-74
 - LOGMODE SYVM-146
 - LTIMELEN DBA-255
 - marker APP-216, APP-235
 - MAXCONN SYVM-275
 - MAXDBSPC SYVM-18, SYVM-18
 - MAXEXTNT SYVM-18, SYVM-18
 - MAXPOOLS SYVM-18, SYVM-18
 - NHEADER DBA-24, DBA-73
 - PARAM DBA-258, OPER-4, SYVM-289
 - PCTFREE DBA-24, DBA-74
 - PCTINDEX DBA-26, DBA-73
 - POOL SYVM-162, SYVM-289
 - PROCMXAB SYVM-68, SYVM-62
 - PROTOCOL DBA-245, DBA-254
 - PTIMEOUT SYVM-68, SYVM-62
 - QRYBLKSIZE DBA-246, DBA-255
 - QUERY DBA-248, DBA-257
 - ranges SYVM-13, SYVM-13
 - RESET DBA-249, DBA-257
 - RESID
 - SQLDBGEN EXEC SYVM-289
 - SQLDBINS EXEC SYVM-287
 - RUN command ISQL-127
 - SECALVER SYVM-61, SYVM-54
 - SECTYPE SYVM-61, SYVM-54
 - specifying
 - user APP-147
 - SSSNAME DBA-248, DBA-257
 - STACK DBA-248, DBA-257
 - START command
 - description ISQL-37
 - example ISQL-62
 - reference ISQL-135
 - STARTER SYVM-289
 - starter database SYVM-13, SYVM-13
 - STORPOOL DBA-23, DBA-73
 - SYNCHRONOUS DBA-245, DBA-254
 - SYNCPNT SYVM-60, SYVM-53
 - TCPCAN SYVM-62
 - TCPDISPB SYVM-55
 - TCPMAXRT SYVM-61, SYVM-55
 - TCPPORT SYVM-61, SYVM-55
 - TCPRETRY SYVM-61, SYVM-55
 - TIME DBA-255
 - TIMEFORMAT DBA-247
 - TRACECONV DBA-248, DBA-256
 - parameter (*continued*)
 - TRACEDRRM DBA-247, DBA-256
 - TRACERA DBA-247, DBA-256
 - user program OPER-9
 - WORKUNIT DBA-247, DBA-255
 - parameter data set
 - creation SYVM-77
 - parameter file
 - creation SYVM-89
 - parameter file, example OPER-5
 - parameter marker
 - EXECUTE statement SQLREF-265
 - Extended EXECUTE statement SQLREF-270
 - Extended PREPARE statement SQLREF-320
 - OPEN statement SQLREF-308, SQLREF-309
 - PREPARE statement SQLREF-315
 - PUT statement SQLREF-323
 - rules SQLREF-315
 - SQLDA SQLREF-361
 - statement preparation SQLREF-142
 - parameter values
 - spanning input records DBSU-136
 - parameterized statement
 - description APP-216
 - parent table
 - definition SQLREF-12
 - description DBA-7
 - table APP-290
 - parentheses
 - in syntax diagrams APP-x, DBA-xiii, DBSU-xiii, DIAG-xi, ISQL-xii, OPER-ix, PERF-ix, SQLREF-2, SYVM-xii, SYVM-xi
 - with UNION SQLREF-128
 - PARENTS column SQLREF-369
 - PARENTS column
 - of SYSCATALOG SQLREF-377
 - PARAM option OPER-4
 - PARAM parameter SYVM-289
 - PARAM parameter of exec DBA-258
 - PARMID initialization parameter OPER-186, SYVM-50, SYVM-76
 - PARMID preprocessor parameter APP-131
 - PARSE trace OPER-191
 - parser tracing OPER-164, OPER-191, OPER-192
 - parsing
 - functional description DIAG-37
 - partial dump OPER-181
 - partial row updates SYVM-243, SYVM-180
 - partition
 - application server OPER-1
 - DB2 OPER-8
 - dump, specifying OPER-181
 - single partition mode
 - See single user mode
 - user OPER-8
 - partition problems DIAG-271
 - partition size for database manager SYVM-8
 - password ISQL-4
- password
 - catalog SQLREF-369
 - changing user's DBA-109
 - CONNECT statement SQLREF-186, SQLREF-192
 - description SQLREF-40
 - GRANT statement SQLREF-291, SQLREF-292
 - minidisk SYVM-94, SYVM-285
 - naming convention APP-25
 - specifying database OPER-194
 - VSAM OPER-194
- PASSWORD column SQLREF-369
- PASSWORD column
 - of SYSUSERAUTH and SYSUSERLIST SQLREF-406
- password implications OPER-32, SYVM-132, SYVM-116
- password option
 - CIRB transaction OPER-18
 - CIRR transaction OPER-34
 - CIRT transaction OPER-30
- password protected data sets
 - starting the application server SYVM-51
 - VSAM SYVM-50
- path length PERF-197
- PCTFREE
 - changing DBA-74
 - clause of CREATE INDEX statement DBA-48
 - creating an index DBA-48
 - default for index DBA-48
 - determining DBA-24
 - initialization parameter PERF-62
 - parameter of ACQUIRE dbspace APP-256
 - parameter of ALTER DBSPACE APP-257
 - reorganize a dbspace PERF-72
 - reorganize a single table PERF-71
 - reserved for an index DBA-48
- PCTFREE clause
 - description SQLREF-201
 - of ACQUIRE DBSPACE statement SQLREF-146
 - of ALTER DBSPACE statement SQLREF-149
 - of ALTER TABLE statement SQLREF-161, SQLREF-163
 - of CREATE INDEX statement SQLREF-200
 - of CREATE TABLE statement SQLREF-225, SQLREF-227
- PCTINDEX DBA-26, DBA-73, DBA-235
- PCTINDEX
 - parameter of ACQUIRE DBSPACE APP-256
 - proportion of page types PERF-61
- PCTINDEX clause
 - of ACQUIRE DBSPACE statement SQLREF-146
- PCTINDX
 - proportion of page types PERF-61
- PCTINDX column SQLREF-369
- PCTINDX column
 - of SYSDBSACES SQLREF-385

PCTPAGES
 high values DIAG-200
 inaccurate values DIAG-188
 low values DIAG-177

PCTPAGES column SQLREF-369

PCTPAGES column
 of SYSCATALOG SQLREF-377

PDUMP
 TRACE
 CLOSE option OPER-164
 NOCLOSE option OPER-164

percent
 archive percent OPER-180
 free space, dbspace OPER-86
 log cushion percent OPER-187

percent free space DBSU-77

percent sign (%)
 in LIKE predicate SQLREF-86

performance
 considerations APP-134, APP-170,
 APP-287
 considerations
 package DBSU-229
 reorganizing indexes DBSU-229
 elements of PERF-1
 improvement process PERF-2
 improving PERF-157
 indicator PERF-3
 measurement
 description PERF-7
 translating to indicators PERF-15
 monitoring plan PERF-2, PERF-6
 objectives PERF-2, PERF-4
 trade-off PERF-2

performance analysis
 chapter on diagnosing DIAG-129

performance indicator
 AVGWLEN PERF-62
 CICSPARS PERF-90
 CIRD transaction PERF-90
 COUNTER PERF-87
 deadlock PERF-23, PERF-102
 directory buffer PERF-24
 FREEPCT PERF-62
 IPCTFREE PERF-63
 local buffer PERF-24
 lock contention PERF-99
 lock request block PERF-24, PERF-100
 lockmode PERF-96
 NOVERFLOW PERF-62
 operating system PERF-14
 PCTINDX PERF-61
 performance improvement process
 PERF-2
 SHOW POOL PERF-60
 SHOW USERS PERF-92
 tools PERF-14
 waitlock PERF-23

PERFORMANCE INDICATOR, definition
 of DIAG-130

performance management
 application programs DBA-14
 CLUSTERED index DBA-49
 multiple database considerations
 DBA-200

performance monitoring OPER-57

performance problem
 diagnosing DIAG-129
 index by DIAG-133
 index by
 application function DIAG-133
 data authorization functions
 DIAG-137
 data definition functions
 DIAG-137
 data manipulation functions
 DIAG-137
 data utilities functions DIAG-138
 recovery control functions
 DIAG-139

index on DIAG-135

index on
 agent related problems DIAG-140
 CPU related problems DIAG-141
 general problems DIAG-135
 I/O related problems DIAG-143
 locking related problems
 DIAG-144
 special case problems DIAG-145
 storage related problems
 DIAG-144

Performance Reporting Facility, VM
 PERF-7

performance symptom, index to problems
 DIAG-139

performance tuning
 asynchronous processing PERF-197
 blocking PERF-198
 buffer pool PERF-197
 checkpoint PERF-202, PERF-203
 checkpoint interval PERF-203
 DASD cache PERF-197
 data space PERF-197
 dynamic storage management
 PERF-198
 internal dbspace PERF-199
 mapping PERF-205
 more asynchronous writes PERF-198
 path length PERF-197
 prefetching PERF-198
 save interval PERF-203
 SQL/DS directory PERF-200
 storage pool PERF-199
 storage size PERF-200
 striping PERF-198, PERF-204
 target working storage size PERF-200

performance, query ISQL-85

period
 concatenation DBSU-110

PERiod preprocessor parameter APP-125

periodic
 back-up of critical data DBA-133
 query DBA-151

periodic high response time
 because of big CHKINTVL DIAG-160
 because of forced checkpoints
 DIAG-159
 because of logging during loads
 DIAG-206
 because of long DBSS calls DIAG-207
 because of sequential processing
 DIAG-224

periodic high response time (*continued*)
 because of small CHKINTVL
 DIAG-160
 DRDA protocol used to access a
 Like-database DIAG-174
 DRDA usage DIAG-174
 indicator, definition of DIAG-131
 performance problem index DIAG-145

permanent dbspace
 shadow page PERF-63

PF key
 description ISQL-3
 FULLSCREEN ISQL-157
 resetting ISQL-157
 summary ISQL-157
 template ISQL-3
 using ISQL-97, ISQL-138

PF keys ISQL-157

PF1 key ISQL-16

PF10 key ISQL-25

PF11 key ISQL-24

PF12 key ISQL-32

PF2 key ISQL-31

PF4 key ISQL-25

PF7 key ISQL-22

PF8 key ISQL-21

PF9 key ISQL-36

phantom row SQLREF-21

phase file
 ARISCCSD SYVM-378
 ARISSCRD SYVM-378
 ARISSTRD SYVM-378

physical data locations PERF-19

physical database SYVM-144, SYVM-124

physical database concept DBA-19

PL/I APP-391

PL/I
 application program
 BEGIN DECLARE SECTION
 statement SQLREF-171
 graphic string constants
 SQLREF-61
 host structure SQLREF-69
 host variable SQLREF-68,
 SQLREF-271
 INCLUDE statement SQLREF-298
 PREPARE statement SQLREF-314
 SQLCA SQLREF-353, SQLREF-359
 SQLDA SQLREF-359, SQLREF-365
 varying-length string variables
 SQLREF-44

attributes of variables APP-385

continuation of SQL statements
 APP-382

data conversion considerations
 APP-386

declaring host variables APP-383

declaring SQLCA APP-388

declaring SQLDA APP-389

declaring static external variables
 APP-383

delimiting SQL statements APP-382

dynamic allocation of SQLDA
 APP-389

embedding SQL statements
 example APP-11

placement of SQL statements APP-382

- PL/I (*continued*)
 - preprocessing programs coded APP-156
 - preprocessor parameter APP-118
 - release level SYVM-3, SYVM-6
 - sample program APP-382
 - stored procedures APP-392
 - using the INCLUDE statement APP-383
- PL/I, invoking the Database Services Utility DBSU-114
- PLABEL column SQLREF-369
- PLABEL column
 - of SYSACCESS SQLREF-375
- placeholder
 - See also* variable
 - profile routine ISQL-67
 - routine ISQL-69
 - RUN command ISQL-127
 - START command ISQL-135
 - used in
 - current SQL statement ISQL-36
 - routine ISQL-71
 - stored SQL statement ISQL-62
- placement in dbspace PERF-121
- placement of SQL statements DBSU-135
- placement of SQL statements
 - assembler APP-314
 - C APP-330
 - COBOL APP-352
 - Fortran APP-370
 - PL/I APP-382
- placing table in dbspace DBA-41
- PLAN clause
 - of EXPLAIN statement SQLREF-274
- plan explain table PERF-145
- PLAN_TABLE
 - EXPLAIN statement SQLREF-276
- plan, performance monitoring PERF-2, PERF-6
- planning
 - database generation SYVM-13, SYVM-13
 - database manager SYVM-9, SYVM-11
 - DB2 Server for VM database machine SYVM-1
 - DB2 Server for VSE SYVM-1
 - distributing data DBA-13
 - DRDA protocol DBA-13
 - installation SYVM-1, SYVM-13, SYVM-1, SYVM-13
 - migration SYVM-1, SYVM-31, SYVM-39
 - operation SYVM-53, SYVM-47
 - storage pool structure PERF-169
- pointer type attribute
 - C APP-337
- points of consistency SQLREF-19
- POOL
 - keyword control statement SYVM-295
 - parameter SYVM-162, SYVM-289
- POOL column SQLREF-369
- POOL column
 - of SYSDBSPACES SQLREF-385
- POOL control statements SYVM-222
- pools storage
 - description OPER-118
- pools storage (*continued*)
 - nonrecoverable OPER-84, OPER-121
 - SHOW POOL example OPER-118, OPER-119
 - showing OPER-118
- PORTUGUESE character set SYVM-452, SYVM-364
- Positioned form
 - of DELETE statement SQLREF-243
 - of UPDATE statement SQLREF-339
- positions of a cursor APP-33
- positive SQLCODE
 - description APP-11, APP-196
- POSSIBLE PROBLEM, definition of DIAG-130
- post installation PERF-187
- potential deadlocks APP-258
- pre-enable checklist PERF-176
- precedence
 - level SQLREF-78
 - operation
 - addition SQLREF-78
 - concatenation SQLREF-79
 - datetime arithmetic SQLREF-79
 - division SQLREF-78
 - expression SQLREF-78
 - multiplication SQLREF-78
 - parentheses SQLREF-78
 - prefix operator SQLREF-78
 - subtraction SQLREF-78
- precedence rules APP-41, APP-52
- precision
 - decimal data SQLREF-48
 - decimal input data DBSU-152
 - of a number SQLREF-47
 - results of arithmetic operations SQLREF-73
 - zoned data DBSU-152
- precision of decimal result DBA-180
- predicate
 - basic SQLREF-79
 - BETWEEN SQLREF-81
 - CCSID PERF-39
 - column attribute PERF-123
 - comparison rules SQLREF-53
 - condition SQLREF-79
 - description SQLREF-79
 - EXISTS SQLREF-83
 - false SQLREF-79
 - filter factors PERF-130
 - IN SQLREF-84
 - in a search condition SQLREF-89
 - join PERF-126
 - key-matching PERF-123
 - LIKE SQLREF-86
 - NULL SQLREF-89
 - processing PERF-122
 - processing
 - examples PERF-131
 - quantified SQLREF-80
 - residual PERF-125
 - sargable PERF-125
 - suitable indexes for PERF-124
 - true SQLREF-79
 - unknown SQLREF-79
- predicates
 - adding more DIAG-196, DIAG-210, DIAG-223
 - constants APP-53
 - description APP-41
 - host variables APP-53
 - rules for evaluating APP-42
- prefetch
 - improving performance PERF-198
- prefix operator SQLREF-73
- PREP, locking problems DIAG-215
- PREPARE
 - format APP-235
 - usage techniques APP-216
- PREPARE statement
 - building statements SQLREF-141
 - description SQLREF-314
 - EXECUTE IMMEDIATE statement SQLREF-272
- PREPARE statement, Extended SQLREF-318, SQLREF-322
- prepared SQL statement
 - DECLARE CURSOR statement SQLREF-239
 - dynamically prepared by PREPARE SQLREF-314, SQLREF-316
 - executing SQLREF-265, SQLREF-268
 - Extended DECLARE CURSOR statement SQLREF-241
 - Extended DESCRIBE statement SQLREF-252
 - Extended EXECUTE statement SQLREF-269
 - Extended PREPARE statement SQLREF-318
 - maximum number SQLREF-350
 - obtaining information with DESCRIBE SQLREF-248
 - SQLDA provides information SQLREF-359
- preparing a stored procedure to run DBA-217
- preparing input for SQLDBGEN SYVM-288
- preparing statements SQLREF-9
- PrepFile preprocessor parameter APP-119, APP-161
- preplanned database access SQLREF-10
- PREPNAME preprocessor parameter APP-118, APP-161
- PREPPARM preprocessor parameter APP-119, APP-161
- preprocess
 - ALTER TABLE statement SQLREF-165
 - DROP statement SQLREF-259
 - DROP STATEMENT statement SQLREF-263
- preprocessing
 - compile partition size PERF-80
 - description APP-114
 - multiple user mode APP-114, APP-154
 - multiple user mode
 - PL/I APP-156
 - parameters APP-114
 - programs APP-155
 - single user mode APP-114, APP-154

Preprocessing
 option file APP-132, APP-168
preprocessing programs
 re-preprocessing DBA-191
 under development DBA-164
 with unauthorized statement
 DBA-189
preprocessor APP-114, SQLREF-10
preprocessor
 CHECK option DBA-174
 coding your own DBA-149
 definition of DIAG-132
 description DIAG-8, SQLREF-240
 exclusive locking in catalogs
 DIAG-179
 KEEP option DBA-191
 NOFOR option SQLREF-240
 performance problem index DIAG-138
 possible locking problems DIAG-215
 termination DBA-129
preprocessor parameters APP-134,
 APP-170
preprocessor parameters
 APOST APP-119, APP-161
 ASM APP-118
 BIND APP-119, APP-162
 BLoK APP-120
 C APP-118
 CCSIDGraphic APP-121
 CCSIDMixed APP-121, APP-162
 CCSIDsbcs APP-121, APP-162
 CHARSUB APP-121, APP-162
 CHECK APP-163
 COB2 APP-163, APP-358
 COBOL APP-118, APP-359
 COBRC APP-163
 COMma APP-125
 CTOKEN APP-122, APP-163
 DATE APP-122, APP-164
 DBFile APP-131
 DBList APP-131
 DBname APP-130
 dcssID APP-130
 ERROR APP-122, APP-163
 EXIST APP-123, APP-164
 EXPLAIN APP-123, APP-164
 Fortran APP-118
 GGraphic APP-124, APP-165
 IBLoK APP-120
 ISOLation APP-124, APP-165
 ISOLATION APP-137, APP-173
 KEEP APP-124, APP-165
 LABEL APP-125, APP-166
 LineCount APP-125, APP-166
 LOGmode APP-130
 NOBIND APP-119, APP-162
 NOBLoK APP-120
 NOCHECK APP-163
 NOEXIST APP-123, APP-164
 NOFOR APP-123, APP-164
 NOGGraphic APP-124, APP-165
 NOPACKAGE APP-125, APP-166
 NOPRint APP-125, APP-166
 NOPUnch APP-125, APP-166
 NOSEQUence APP-126, APP-166
 NOSQLCA APP-126
 OWner APP-125
preprocessor parameters (*continued*)
 PACKAGE APP-125, APP-166
 PARMID APP-131
 PERiod APP-125
 PL/I APP-118
 PrepFile APP-119, APP-161
 PREPNAME APP-118, APP-161
 PREPPARM APP-119, APP-161
 PRint APP-125, APP-166
 PUncH APP-125, APP-166
 QUALifier APP-126
 QUOTE APP-119, APP-161, APP-357
 RELease APP-126
 REVOKE APP-124, APP-165
 SBLoK APP-120
 SEQUence APP-126, APP-166
 SQLApost APP-126
 sqlBnd APP-127
 SQLFLAG APP-167
 SQLQuote APP-126
 STDSQL APP-127, APP-167
 suppressing display APP-160
 sysIN APP-128
 SYSIN APP-167
 sysPRint APP-128
 sysPUncH APP-129
 TIME APP-127, APP-167
 USERid APP-119, APP-161
preprocessorparameters
 DYNALC APP-123, APP-164
prerequisite manual PERF-viii
prerequisite programs SYVM-7
preventing
 SQL statement from being processed
 ISQL-36, ISQL-118
prevention of log-record overlay
 DIAG-61
preventive service PERF-175
previous SQL statement
 recalling ISQL-63, ISQL-124
 storing restriction ISQL-61
primary
 activating and deactivating keys
 SQLREF-17
 index SQLREF-11
 key SQLREF-11, SQLREF-12
primary database machine SYVM-272,
 SYVM-274
primary key APP-290
primary key
 activating ISQL-81
 activating and deactivating
 SQLREF-17
 adding ISQL-80
 clause of CREATE TABLE statement
 DBA-38
 CREATE TABLE DBA-39
 creating ISQL-80
 deactivating ISQL-81
 description DBA-38
 identifying DBA-4
 index DBA-39
 multicolumn DBA-5
 planning for DBA-6
 reorganizing index DBA-68
PRIMARY KEY clause
 of ALTER TABLE statement
 SQLREF-161
 of CREATE TABLE statement
 SQLREF-224, SQLREF-225
primary production minidisk SYVM-273
PRINT DBA-156, ISQL-25, ISQL-121,
 ISQL-157
print characteristics ISQL-92
PRint preprocessor parameter APP-125,
 APP-166
printed reports
 bottom title ISQL-50, ISQL-109
 date ISQL-25, ISQL-123
 introduction ISQL-2
 multiple copies
 CP SPOOL command ISQL-92
 PRINT command ISQL-26,
 ISQL-122
 page number ISQL-25, ISQL-123
 page size, specifying ISQL-132
 printing ISQL-2, ISQL-121
 remote printer ISQL-92
 routine ISQL-122
 routing ISQL-59, ISQL-123, ISQL-132
 routing to alternate printer ISQL-92
 SET command ISQL-57, ISQL-130
 top title
 example ISQL-50
 TTITLE option of FORMAT
 command ISQL-109
printing
 report writing support DBA-205
 security audit information DBA-118
 the HELP text
 using ISQL DBA-148
 using the DBS utility DBA-147
PRINTRROUTE keyword
 LIST command ISQL-120
 SET command ISQL-132
prioritization of agents DIAG-21
prioritization of agents
 overview DIAG-21
priority
 agent prioritization PERF-92
 dispatching (VSE) PERF-79
priority dispatcher SYVM-66, SYVM-60
PRIVATE clause
 in ACQUIRE DBSPACE statement
 SQLREF-145
private dbspace
 cursor stability PERF-97
 description ISQL-83
 privileges for CREATE TABLE
 SQLREF-220, SQLREF-227
 setting isolation level ISQL-88
 storing table ISQL-77
PRIVATE dbspace
 description DBA-21
 in application development DBA-165
private query user data DBA-166
PRIVATE table, editing DBA-158
privilege
 access objects SQLREF-33
 application program DBA-96
 automatic revocation APP-271
 create index SQLREF-33

- privilege (*continued*)
 - dependencies SQLREF-332
 - description APP-270
 - GRANT option DBA-95
 - granting DBA-95
 - monitoring DBA-96
 - package APP-271
 - programs APP-273
 - references APP-292
 - remote user DBA-96
 - restricting
 - specific column ISQL-83
 - specific row ISQL-83
 - revoking APP-273, DBA-85, DBA-96, DBA-109
 - revoking
 - from others APP-270
 - table DBA-94
 - table or view
 - alter APP-270
 - delete APP-270
 - description APP-270
 - index APP-270
 - insert APP-270
 - references APP-270
 - select APP-270
 - update APP-270
 - user DBA-94
 - view DBA-94
- privilege classes
 - user machine SYVM-282
- privileged remote DRDA user, VSE PERF-92
- problem
 - determination OPER-155
 - handling DIAG-271
 - in the database partition DIAG-271
 - isolation and the trace facility DIAG-300
- problems in the database machine DIAG-273
- procedure
 - DATALOAD DBSU-31
 - DATAUNLOAD DBSU-51
 - general loading DBSU-36
 - UNLOAD
 - unloading dbspaces DBSU-63
 - unloading tables DBSU-63
- PROCEDURE clause
 - of COMMENT ON PROCEDURE statement SQLREF-181
- procedure-name SQLREF-255
- procedures
 - abnormal termination DIAG-83
 - document DIAG-98
 - first failure data capture DIAG-88
 - incorrect or missing output DIAG-98
 - message DIAG-85
 - NO RESPONSE DIAG-97
 - SLOW RESPONSE DIAG-97
 - stored PERF-83
- procedures, ARIS080D OPER-19
- process
 - performance improvement PERF-2
- processing
 - current SQL statement ISQL-31, ISQL-135
- processing (*continued*)
 - debug mode DBSU-225
 - load-program commands DBSU-207
 - routine ISQL-71
 - stored SQL statement ISQL-135
- processing cost PERF-140
- processing dumps DIAG-275
- processing summary for the Database Services Utility DBSU-144
- processor
 - as a resource PERF-9
 - load measurement PERF-14, PERF-17
 - time used PERF-29
- processor requirement PERF-175
- processor storage requirements SYVM-425
- PROCMXAB initialization parameter OPER-186, SYVM-68, SYVM-62
- PROCMXAB parameter DBA-219
- product-supplied archiving facilities
 - description SYVM-196, SYVM-146
 - using to archive databases SYVM-201, SYVM-152
 - using to archive logs SYVM-206, SYVM-154
- production minidisk SYVM-5
- production minidisk
 - primary SYVM-273
 - secondary SYVM-274
 - secondary
 - example SYVM-273
 - storage requirements SYVM-6
- production workload PERF-3, PERF-6
- PROFILE EXEC
 - additional database machine SYVM-281
 - database machine SYVM-278, SYVM-281
 - user machine SYVM-283
- PROFILE EXEC, modifying PERF-56
- profile routine ISQL-67
- PROGNAME column SQLREF-369
- PROGNAME column
 - of SYSPROG AUTH SQLREF-397
- PROGNAME initialization parameter OPER-186
- program
 - affected by implicit CONNECT DBA-98
 - as an application process SQLREF-18
 - creator DBA-98
 - declaring a host_identifier SQLREF-37
 - Extended CLOSE statement SQLREF-178
 - Extended DESCRIBE statement SQLREF-252
 - Extended FETCH statement SQLREF-288
 - Extended OPEN statement SQLREF-313
 - Extended PUT statement SQLREF-327
 - inserting declarations SQLREF-297
 - inserting statements SQLREF-297
 - interrupts
 - Fortran APP-376
 - PL/I APP-388
 - name OPER-186
- program (*continued*)
 - naming convention APP-25
 - privilege DBA-96
 - privileges
 - revoking APP-273
 - runner DBA-98, DBA-110
 - sample APP-21
 - termination
 - batch applications APP-16
 - user
 - options OPER-9
 - single user mode OPER-9
- program control
 - isolation level SQLREF-22
- program directory
 - loading PERF-175
- Program Function key (PF key)
 - See PF key
- program products required by database manager SYVM-6
- program products required by DB2 Server for VM database manager SYVM-3
- program temporary fix (PTF) PERF-2
- program termination
 - CICS/VSE programs APP-17
 - CMS programs APP-15
 - ICCF applications APP-16
- program_name
 - in ALTER TABLE statement SQLREF-159, SQLREF-161
 - in CREATE TABLE statement SQLREF-222, SQLREF-225
- program-load commands, reference DBSU-207
- programmed query DBA-155
- programmed report DBA-157
- programming interface
 - description APP-407
- programming interfaces provided by the Database Services Utility DBSU-257
- programming languages
 - double-byte character set (DBCS) support SYVM-3, SYVM-243
 - release level SYVM-3
- programs using DBCS data
 - assembler APP-315
 - C APP-341
 - COBOL APP-360
 - Fortran APP-374
 - PL/I APP-386
- programs, prerequisite SYVM-7
- PROGS (package cache management) DIAG-40
- PROJ_ACT sample table DBSU-243, ISQL-151, SQLREF-416
- PROJECT sample table DBSU-241, ISQL-149, SQLREF-415
- PROMPTS control parameter DBSU-116
- proportion
 - of available pages PERF-25
 - of index to data and header pages PERF-61
- proportion of index to data and header pages
 - PCTINDEX PERF-61
 - PCTINDX PERF-61

protected conversation
 AXE transaction DIAG-12
 DAXP transaction DIAG-13
 messages DIAG-12

protecting
 existing stored commands ISQL-61
 protecting minidisks SYVM-139
 protecting VSAM data sets SYVM-119

PROTOCOL
 AUTO option PERF-109
 CCSID conversion PERF-109
 DRDA
 communications PERF-108
 option PERF-109, PERF-110
 SQLDS option PERF-109

PROTOCOL initialization parameter
 description OPER-196

PROTOCOL parameter SYVM-57

PROTOCOL parameter
 for initialization OPER-196

PROTOCOL parameter of exec
 AUTO DBA-245, DBA-254
 DRDA DBA-245, DBA-254
 SQLDS DBA-245, DBA-254

prototyping
 application function DBA-163
 of data DBA-162

PSERVER
 problems DIAG-275
 setup problems DIAG-126

PSERVERS
 characteristics APP-264
 example of a definition APP-265
 execution APP-264

pseudo agent
 description PERF-90
 number waiting PERF-90

pseudo-agent structure DIAG-20,
 SYVM-95

pseudo-conversational programming
 use to reduce link waits DIAG-151

pseudo-conversational transactions
 DBA-172, SYVM-71

pseudocode
 description APP-4

PTF tape PERF-175

PTIMEOUT initialization parameter
 OPER-186, SYVM-68, SYVM-62

PTIMEOUT parameter DBA-218

PUBLIC clause
 in ACQUIRE DBSPACE statement
 SQLREF-145
 in GRANT statement SQLREF-289,
 SQLREF-294, SQLREF-295
 in REVOKE statement SQLREF-328,
 SQLREF-331, SQLREF-332

public dbspace SYVM-20, SYVM-296,
 SYVM-19

public dbspace
 creating tables in ISQL-83
 setting isolation level ISQL-86,
 ISQL-88
 storing tables in ISQL-77

PUBLIC dbspace DBA-166

PUBLIC dbspace
 description DBA-21

PUnch preprocessor parameter APP-125,
 APP-166

punctuation
 for display of a numeric column
 ISQL-56, ISQL-130

punctuation mark
 in syntax diagrams APP-x, DBA-xiii,
 DBSU-xiii, DIAG-xi, ISQL-xii,
 OPER-ix, PERF-ix, SQLREF-2,
 SYVM-xii, SYVM-xi

PURGE parameter
 description DBSU-76
 RELOAD DBSPACE command
 DBSU-76, DBSU-192
 RELOAD TABLE command
 DBSU-198

purging the trace buffer OPER-13

PUT
 assignment rules SQLREF-53
 description APP-36
 format APP-36

PUT statement
 description SQLREF-323
 OPEN statement SQLREF-310
 SQLDA SQLREF-359
 SQLLEN value SQLREF-362
 SQLTYPE value SQLREF-362

PUT statement, Extended SQLREF-326,
 SQLREF-327

Q

Q-disk
 storage requirements SYVM-6

QCE (Query Cost Estimate)
 description ISQL-19
 how to display ISQL-130

QCE, definition of DIAG-132

QDROP OFF USERS
 not being used DIAG-226
 setting DIAG-226

QMF SQLREF-10

QRY
 bind parameter APP-150

QRYBLKSIZE
 blocking PERF-110

QRYBLKSIZE parameter of exec
 DBA-246, DBA-255

QSAM, as augmented by DB2 Server for
 VM database manager SYVM-74

QUALF column SQLREF-369

QUALF column
 of SYSDROP SQLREF-386

qualification of column names
 SQLREF-64

QUALifier
 bind parameter APP-149

QUALIFIER option
 of CREATE PACKAGE statement
 SQLREF-205

QUALifier preprocessor parameter
 APP-126

qualifiers
 column names APP-67
 table names APP-25

qualify
 fully APP-25

qualifying
 object names DBSU-110

qualifying (*continued*)
 table name DBSU-111

qualifying groups
See having clause

quantified predicate
 description SQLREF-80

query
 adhoc
 isolation level PERF-113
 performance considerations
 PERF-112
 temporary table PERF-113
 view PERF-113
 cost estimate DBA-163
 description ISQL-1, ISQL-19,
 SQLREF-121
 expression
 DB2 Server for VSE & VM
 equivalent term SQLREF-423
 multiple-row DBSU-22
 one-time DBA-151
 periodic DBA-151
 programmed DBA-155
 separating into subquery structures
 PERF-150
 several tables PERF-132
 specification
 DB2 Server for VSE & VM
 equivalent term SQLREF-423
 SQLGLOB parameters SYVM-253
 stored DBA-151, DBA-163, DBA-174
 term
 DB2 Server for VSE & VM
 equivalent term SQLREF-423
 to test DBA-173
 user data control DBA-166
 user identification DBA-175

Query
 Connected Database APP-54

query block size
 possible problem with size DIAG-222

query cost estimate
 definition of DIAG-132
 inaccurate results DIAG-151,
 DIAG-188

Query Cost Estimate (QCE)
See QCE (Query Cost Estimate)

query cursor
 in DECLARE CURSOR statement
 SQLREF-236
 in OPEN statement SQLREF-308

query format characteristics
 listing ISQL-59
 setting ISQL-55, ISQL-59

query management facility (QMF)
 SQLREF-10

QUERY parameter of exec DBA-248,
 DBA-257

query result
 displaying ISQL-20, ISQL-25
 ending ISQL-25, ISQL-106
 formatting ISQL-39, ISQL-59,
 ISQL-109
 moving
 backward ISQL-99
 display to a particular column
 ISQL-103

- query result (*continued*)
 - moving (*continued*)
 - forward ISQL-116
 - left ISQL-119
 - right ISQL-126
 - printing ISQL-25, ISQL-121
 - viewing columns too wide for the display ISQL-138
 - query set PERF-184, PERF-186
 - QUERY TIME
 - command PERF-15
 - description PERF-8
 - example PERF-16
 - query/report writing DBA-207
 - query/report writing
 - configuration SYVM-5
 - database support DBA-166
 - implementation considerations DBA-175
 - query/report writing capability DBA-151
 - querying
 - nonrecoverable storage pools SYVM-247, SYVM-184
 - tables through a view APP-63
 - querying the status of an application SQLQRY command DBA-267
 - question mark
 - See* parameter marker
 - queue, storage PERF-27
 - quick application server
 - online support shutdown OPER-30
 - return code OPER-15
 - shutdown OPER-15
 - quick DB2 Server for VM shutdown SYVM-93
 - quick DB2 Server for VSE shutdown SYVM-80
 - quick DB2 system
 - shutdown OPER-13
 - SQLEND QUICK OPER-13
 - quick dispatch
 - SET QUICKDSP PERF-79
 - QUICKDSP ON DIAG-226
 - quotation mark
 - considerations in COBOL APP-119, APP-161
 - constants APP-57
 - double, in identifier DBSU-110
 - parameter value DBSU-136
 - single, in comment DBSU-138
 - QUOTE preprocessor parameter APP-119, APP-161, APP-357
- R**
- range predicates, possible path selection problems DIAG-222
 - ratio
 - cost-benefit PERF-1
 - hit PERF-7
 - RDIEXT (data area) DIAG-316
 - RDIIN (data area) DIAG-313
 - RDIIN (data area)
 - functional description DIAG-36
 - RDIIN control block DIAG-36
 - RDIIN trace OPER-191
 - RDS (Relational Data System) OPER-163
 - RDS (Relational Data System)
 - calls OPER-58
 - RDS (Relational Data System) (*continued*)
 - list of functions and subcomponents OPER-164
 - tracing OPER-163
 - RDSCALL counter OPER-58, PERF-23
 - re-preprocess
 - package needs DIAG-217
 - to improve performance DIAG-218
 - reactivate referential constraint SQLREF-13
 - read counters OPER-59
 - READ FILE DBSU-131
 - read stability
 - isolation level SQLREF-22, SQLREF-204
 - read-only
 - cursor SQLREF-237
 - table SQLREF-237
 - view SQLREF-234
 - READCARD
 - restriction SYVM-141
 - reading from a locked dbspace APP-255
 - READS counter PERF-15
 - ready/recovery agent OPER-65
 - READY/RECOVERY agent SYVM-110, SYVM-94
 - real agent
 - description PERF-88
 - number available PERF-90
 - storage queue PERF-46
 - real agent structure DIAG-20
 - real agents SYVM-95
 - REAL data type DBSU-151, DBSU-174, SQLREF-159, SQLREF-223
 - real storage
 - as a resource PERF-10
 - description PERF-43
 - increasing virtual storage PERF-47
 - load measurement PERF-14
 - when to add DIAG-156, DIAG-213, DIAG-221
 - real storage requirements
 - summary SYVM-5, SYVM-8
 - Real Time Monitor VM/ESA program, (RTM VM/ESA) PERF-8
 - real time monitoring PERF-5
 - REBIND PACKAGE APP-145, APP-180
 - REBIND PACKAGE command
 - reference DBSU-213
 - reblocking directory PERF-193
 - RECALL command
 - description ISQL-63
 - PF5 ISQL-157
 - reference ISQL-124
 - recalling a stored SQL statement
 - description ISQL-63
 - isolation level ISQL-88
 - RECALL command ISQL-124
 - RECEIVE
 - restriction SYVM-141
 - RECFM V input DBSU-35
 - reclaiming storage space DIAG-48
 - reconfiguring the log SYVM-230, SYVM-231, SYVM-171
 - records
 - spanned SYVM-76
 - records reloaded DBSU-80
 - recoverable
 - DBS utility command SYVM-243, SYVM-180
 - SQL statements SYVM-243, SYVM-180
 - recoverable storage pool DBA-23
 - recoverable storage pool
 - UPDATE statement SQLREF-342
 - recovering from DBSS errors DIAG-237, DIAG-266
 - recovering from DBSS errors
 - bypassing UNDO WORK failure DIAG-252
 - causes for errors DIAG-238
 - committed work, rolling back DIAG-255
 - disabling a DBSPACE DIAG-265
 - enabling a DBSPACE DIAG-266
 - examples of diagnostic displays DIAG-237
 - extended processing DIAG-250
 - forward processing failure action DIAG-245
 - interpreting the diagnostic display DIAG-237
 - invoking DB2 Server for VSE & VM DIAG-249
 - invoking DB2 Server for VSE & VM
 - example to process EXTEND input file commands DIAG-250
 - meanings of fields in display DIAG-238, DIAG-239, DIAG-240, DIAG-241, DIAG-242, DIAG-243, DIAG-244
 - REDO processing failures DIAG-247
 - REDO processing failures
 - during restore DIAG-248
 - during warm start DIAG-247
 - ROLLBACK processing failure DIAG-246
 - rolling back committed work DIAG-255
 - UNDO processing failure DIAG-246
 - UNDO processing failure
 - during restore DIAG-247
 - during warm start DIAG-246
 - recovery SYVM-243, SYVM-179
 - recovery
 - See also* recovering from DBSS errors
 - abnormal end in a field procedure SYVM-372, SYVM-293
 - alternate logging SYVM-229, SYVM-169
 - application design DBA-123
 - application failure DBA-123
 - application failure
 - multiple user mode DBA-126
 - single user mode DBA-127
 - archive PERF-105
 - as overhead PERF-11
 - batch and VSE/ICCF application DBA-169
 - checkpoint PERF-102
 - concept DBA-121
 - considerations DBA-121, DBA-137, SYVM-193, SYVM-249, SYVM-143, SYVM-187

- recovery (*continued*)
 - DASD failures
 - damaged database SYVM-197, SYVM-147
 - damaged database and log SYVM-198, SYVM-148
 - damaged log SYVM-198, SYVM-148
 - DBS Utility application DBA-170
 - DBS Utility failure DBA-128
 - dual copy SYVM-230
 - dual log SYVM-194, SYVM-144
 - dual logging SYVM-230, SYVM-170
 - dual logs SYVM-215
 - dynamic application backout DBA-122
 - filtered log DBA-130
 - filtered log
 - See* recovering from DBSS errors general OPER-147
 - history area SYVM-235, SYVM-173
 - ISQL failure DBA-128
 - log PERF-105
 - log reconfiguration SYVM-231
 - log reformatting SYVM-231, SYVM-172
 - logical unit of work PERF-102
 - L UW DIAG-59
 - management tracing OPER-191
 - media failure OPER-154
 - nonrecoverable data SYVM-241, SYVM-178
 - nonrecoverable dbspaces SYVM-241, SYVM-178
 - nonrecoverable storage pools SYVM-240, SYVM-244, SYVM-177, SYVM-181
 - of DBSPACE DIAG-49
 - online application DBA-127, DBA-172
 - processing failures with nonrecoverable data SYVM-243, SYVM-179
 - recovery management tracing OPER-163
 - shadow page PERF-63
 - special topics SYVM-227, SYVM-167
 - SQLEND SYVM-94, SYVM-81
 - storage queue PERF-46
 - switching log data between logs SYVM-235
 - switching log modes SYVM-227, SYVM-167
 - system failure SYVM-214, SYVM-157
 - user error DBA-129, DBA-130, DBA-133
 - within application program DBA-131
- recovery control
 - commands, definition of DIAG-132
 - performance problem index DIAG-139
- recovery list SYVM-110, SYVM-94
- recreate referential constraint SQLREF-13
- RECSZ parameter of VSAM DEFINE command SYVM-215, SYVM-216
- redefining the log data sets OPER-188
- reducing
 - lock escalation DBSU-228, PERF-114
 - log space requirements DBSU-45
- redundant data PERF-155
- redundant data
 - stored results DIAG-148
 - table splitting DIAG-148
 - to avoid DIAG-146
 - to avoid
 - I/O's DIAG-158, DIAG-233
 - key lock contention DIAG-184
 - lock contention DIAG-206
 - lock waits on keys DIAG-146
 - transaction tables DIAG-148
- reentrant code PERF-47
- reentrant programs
 - assembler APP-318, APP-348
 - C APP-348
 - COBOL APP-366, APP-367
- REFAUTH column SQLREF-369
- REFAUTH column
 - of SYSTABAUTH SQLREF-404
- REFER feature of PL/I APP-390
- reference
 - command specification DBSU-135
 - Database Services Utility commands DBSU-135
- REFERENCE clause
 - of EXPLAIN statement SQLREF-274
- reference explain table PERF-147
- reference information
 - online ISQL-15, ISQL-117
- reference information for storage space calculations SYVM-427, SYVM-341
- reference material DBSU-225
- reference material
 - Database Services Utility DBSU-105
 - DBCS considerations DBSU-230
 - debugging DBSU-225
 - double-byte character set DBSU-230
 - entering File Identifiers DBSU-252
 - FILEDEF command DBSU-249
 - ideographic character DBSU-230
 - improving performance DBSU-227
 - locking considerations DBSU-227
 - nonrecoverable storage pool DBSU-227
 - sample tables DBSU-235, ISQL-143
 - specifying
 - CMS tape label processing DBSU-252
 - ddname DBSU-251
 - device type DBSU-251
 - options DBSU-252
 - storage dump, Database Services Utility-initiated DBSU-225
 - storage pool, nonrecoverable DBSU-227
 - tables, example, DB2 Server for VSE & VM DBSU-235, ISQL-143
 - usage considerations DBSU-229
- REFERENCE_TABLE
 - EXPLAIN statement SQLREF-279
- REFERENCES clause
 - of ALTER TABLE statement SQLREF-162
 - of CREATE TABLE statement SQLREF-222, SQLREF-226
 - of GRANT statement SQLREF-294, SQLREF-295
- REFERENCES clause (*continued*)
 - of REVOKE statement SQLREF-331, SQLREF-332
- references privilege APP-292
- references privilege
 - existing applications APP-293
 - modifying the contents of tables with referential constraints APP-293
- REFERENCES privilege
 - in ALTER TABLE statement SQLREF-158
- referential
 - constraint APP-289
 - cycle
 - definition APP-289
 - description APP-288
 - integrity APP-288
 - integrity
 - existing tables APP-291
 - new tables APP-290
 - rules APP-297
 - structure APP-289
- referential constraint
 - deactivate SQLREF-13
 - delete rule
 - cascade SQLREF-13
 - restrict SQLREF-13
 - set null SQLREF-13
 - description DBA-39, SQLREF-13
 - drop SQLREF-13
 - GRANT statement SQLREF-295
 - INSERT statement SQLREF-301
 - key SQLREF-11
 - reactivate SQLREF-13
 - recreate SQLREF-13
 - UPDATE statement SQLREF-342
- referential constraints, filtered log recovery DIAG-250
- referential cycle
 - definition SQLREF-15
- referential integrity SQLREF-12
- referential integrity
 - activate foreign key DBA-67
 - activate primary key DBA-67
 - CREATE TABLE DBA-39
 - dbspace DBA-19
 - deactivate foreign key DBA-68
 - deactivate primary key DBA-68
 - deferred constraint enforcement DBA-69
 - delete rule DBA-40
 - dependently inactive table DBA-66
 - description DBA-7
 - explicitly inactive key DBA-66
 - explicitly inactive table DBA-66
 - filtered log recovery DIAG-261
 - foreign key DBA-7
 - immediate constraint enforcement DBA-68
 - implicitly inactive key DBA-66
 - insert rule DBA-40
 - performance considerations DBA-69
 - planning for DBA-6
 - primary key DBA-6
 - primary key index DBA-39
 - RELOAD commands DBSU-74
 - repairing violations DBA-70

- referential integrity (*continued*)
 - storage pool DBA-18, DBA-23
 - unique constraint DBA-6
 - update rule DBA-40
- referential structure
 - description DBA-39
 - EXPLAIN PERF-148
 - organization PERF-121
- reformatting
 - log SYVM-230, SYVM-231, SYVM-171, SYVM-172
- reformatting, database OPER-188
- REFTCREATOR column SQLREF-369
- REFTCREATOR column
 - of SYSKEYS SQLREF-392
- REFTNAME column SQLREF-369
- REFTNAME column
 - of SYSKEYS SQLREF-392
- regenerating a database SYVM-27, SYVM-34
- register contents for dynamic startup DBSU-113
- register save conventions
 - support APP-181
- regular application server
 - online support shutdown OPER-30
 - shutdown OPER-14
- regular DB2 Server for VM shutdown SYVM-93
- relational data system (RDS)
 - executives DIAG-10
 - functional description DIAG-10
 - invocation DIAG-10
 - loading and storing of packages DIAG-10
 - optimizing DIAG-10
 - overview DIAG-10
 - parsing DIAG-10
- Relational Data System (RDS) OPER-163
- Relational Data System (RDS)
 - calls OPER-58
 - list of functions and subcomponents OPER-164
 - tracing OPER-163
- relational database
 - description SQLREF-10
 - distributed SQLREF-23
- relationship APP-289
- relationship
 - many-to-many DBA-3
 - many-to-one DBA-3
 - multivalued DBA-2
 - one-to-many DBA-3
 - one-to-one DBA-2
 - single-valued DBA-2
 - table definition DBA-2
- relative performance measurement PERF-13
- relative share PERF-79
- RELEASE column SQLREF-369
- RELEASE column
 - of SYSINDEXES SQLREF-389
- RELEASE keyword
 - of COMMIT statement SQLREF-183
 - ROLLBACK statement SQLREF-335
- release level PERF-42
- release level
 - coexistence SYVM-39, SYVM-46
 - products required by DB2 Server for VM database manager SYVM-3
- release levels of products required by database manager SYVM-6
- RELEASE option
 - COMMIT APP-16
 - of CREATE PACKAGE statement SQLREF-206
 - ROLLBACK APP-16
- RELease preprocessor parameter APP-126
- release to release incompatibilities
 - 2.1 and 1.3.5 SQLREF-428, SQLREF-430, SYVM-482, SYVM-484, SYVM-390, SYVM-392
 - 2.2 and 2.1 SQLREF-430, SQLREF-433, SYVM-484, SYVM-487, SYVM-392, SYVM-395
 - 3.1 and 2.2 SQLREF-433, SQLREF-444, SYVM-487, SYVM-497, SYVM-395, SYVM-405
 - 3.2 and 3.1 SYVM-497, SYVM-504, SYVM-405, SYVM-411
 - 3.3 and 3.2 (VM only) SQLREF-444, SQLREF-450, SYVM-504, SYVM-510
 - 3.4 and 3.2 (VSE only) SQLREF-454, SQLREF-463, SYVM-411, SYVM-420
 - 3.4 and 3.3 (VM only) SQLREF-450, SQLREF-454, SYVM-510, SYVM-514
 - 3.5 and 3.4 SQLREF-463, SYVM-514, SYVM-420
 - 5.1 and 3.5 SQLREF-464, SYVM-515, SYVM-420
 - 6.1 and 5.1 SQLREF-464, SYVM-515, SYVM-421
 - 7.1 and 6.1 SQLREF-465, SYVM-516, SYVM-421
 - 7.2 and 7.1 SQLREF-465, SYVM-516, SYVM-421
 - 7.3 and 7.2 SYVM-517, SYVM-421
 - description SQLREF-427, SYVM-481, SYVM-389
- releasing your connection
 - batch applications APP-16
 - CICS/VSE applications APP-17
 - CMS applications APP-19
 - ICCF applications APP-16
 - to DB2 Server for VSE & VM APP-19
- releasing, page PERF-86
- RELOAD
 - automatic statistics collection PERF-113
 - clustering index PERF-67
 - free page space PERF-40
 - locking PERF-114
 - NEW PERF-72
 - PCTFREE PERF-62
 - PURGE PERF-71
 - single table PERF-71
- RELOAD command
 - description DBSU-81
 - errors DBSU-91
 - NEW parameter DBSU-192
 - PURGE parameter DBSU-76
- RELOAD DBSPACE command
 - description DBSU-71, DBSU-191
- RELOAD PACKAGE
 - DBS utility PERF-115
 - usage considerations PERF-115
- RELOAD PACKAGE command
 - description DBSU-208
 - locking conditions DBSU-228
 - synonym DBSU-85
 - syntax diagram DBSU-208
 - task DBSU-87
 - TIMESTAMP DBSU-85
 - usage considerations DBSU-229
- RELOAD TABLE command DBSU-196
- reload-data tasks
 - nonrecoverable storage pools affecting reloading DBSU-79
 - receiving reload-notification DBSU-80
 - updating statistics DBSU-82
- reloading
 - CCSID-related package SYVM-226
 - CMS communications directory SYVM-10
 - COMDIR SYVM-10
- remarks
 - in catalog SQLREF-179, SQLREF-181
- REMARKS
 - column of SYSCATALOG DBA-53
- REMARKS column SQLREF-369
- REMARKS column
 - of SYSCATALOG SQLREF-179, SQLREF-181, SQLREF-375
 - of SYSCOLUMNS SQLREF-180, SQLREF-382
 - of SYSLANGUAGE SQLREF-392
 - of SYSOPTIONS SQLREF-394
- remote
 - access to DB2 Server for VSE & VM DBA-11
 - application server
 - administration DBA-15
 - connecting implicitly DBA-99
 - definition DBA-13
 - distributed database DBA-11
 - remote DRDA application server
 - connecting with CICS DIAG-36
- Remote Server Name
 - resolving to target database DBA-106
- remote spooling communications subsystem (RSCS)
 - release required SYVM-3
- remote unit of work
 - application program APP-3
 - application server
 - renaming SYVM-49
 - blocking APP-121, APP-141
 - considerations in using extended dynamic statements APP-249
 - CURRENT SERVER APP-54
 - extended dynamic processing APP-241, APP-242
 - isolation level APP-137
- PACKAGE
 - description DBSU-85
 - unloading DBSU-85
 - special register APP-54
 - unsupported commands
 - SET ISOLATION command DBSU-218

remote unit of work (*continued*)
 unsupported commands (*continued*)
 SET UPDATE STATISTICS
 command DBSU-220
 USER isolation APP-124

Remote unit of work SYVM-1

remote unit of work (RUOW) SQLREF-26

remote, privileged DRDA user PERF-92

removing
 a user DBA-85, DBA-87
 a user from a VSE guest DBA-87
 table DBA-72
 user machines DBA-87

RENAME command ISQL-65, ISQL-125

renaming
 stored SQL statement ISQL-65,
 ISQL-125

renaming a database SYVM-45

renaming a resource identifier SYVM-50

reorganization
 to avoid DBSPACE scans DIAG-170,
 DIAG-177, DIAG-201
 to avoid I/O's DIAG-225, DIAG-233,
 DIAG-234

reorganize
 all the tables in a dbspace PERF-71
 clustering index PERF-74
 dbspace DBA-74, DBA-224, PERF-65
 index PERF-73
 index, primary key DBA-68
 indexes on the catalog tables DBA-77
 invalid index PERF-75
 PCTFREE PERF-71, PERF-72
 reasons to reorganize data PERF-70
 selecting a method PERF-70
 single table PERF-71

REORGANIZE INDEX
 advantages PERF-73
 DBS utility command PERF-73
 indexes are fragmented DIAG-194
 invalid index PERF-75
 to avoid DBSPACE Scan DIAG-169
 to avoid large sorts DIAG-166

REORGANIZE INDEX command
 DBSU-138

reorganizing indexes DBSU-138,
 DBSU-229

reorganizing the catalog index OPER-188

repeat symbol
 in syntax diagrams APP-xi, DBA-xv,
 DBSU-xv, DIAG-xii, ISQL-xiii,
 OPER-x, PERF-x, SQLREF-4,
 SYVM-xiii, SYVM-xiii

repeatable read DIAG-67

repeatable read
 guidelines ISQL-89
 isolation level ISQL-87, ISQL-131,
 SQLREF-20
 locking problems with ISQL usage
 DIAG-205

repeatable read (RR)
 isolation level DBSU-218, PERF-97
 ISQL PERF-113

repeatable read locking APP-134,
 APP-170

REPLACE
 bind parameter APP-148

REPLACE keyword
 introduction ISQL-61
 message ISQL-62
 reference ISQL-136
 saving format information ISQL-64

REPLACE option
 of CREATE PACKAGE statement
 SQLREF-206

replacing
 database and log dataset SYVM-148
 database and log minidisk SYVM-198
 database minidisk SYVM-223
 dbextents SYVM-164
 log data set SYVM-164
 log dataset SYVM-148
 log minidisk SYVM-198
 log minidisks SYVM-225

report
 errors DBSU-224
 example DBSU-95
 formatting ISQL-46, ISQL-55,
 ISQL-109
 isolation level setting ISQL-87
 isolation level setting
 formal reports ISQL-89
 obtaining multiple copies ISQL-26,
 ISQL-57
 page size ISQL-57
 printed
 bottom title ISQL-50, ISQL-109
 date ISQL-25, ISQL-123
 page number ISQL-25, ISQL-123
 page size ISQL-57, ISQL-132
 setting output class ISQL-129
 setting output class for a particular
 report ISQL-121
 setting the number of copies
 ISQL-130
 setting the number of copies for a
 particular report ISQL-122
 top title ISQL-50, ISQL-109
 printing ISQL-25, ISQL-121
 working with DBSU-9

report writing
 capability DBA-156
 DB2 Server for VSE SYVM-5
 printer support DBA-205
 through application program
 DBA-157
 through ISQL DBA-156
 through the DBS Utility DBA-157

reporting a problem DIAG-83

reprep
 concepts DIAG-40
 invalid packages DIAG-40

repreprocessing DIAG-40

REPRO (VSAM) DBA-61

request
 blocks OPER-185
 mode for locks OPER-111
 state for locks OPER-111
 SYNCPOINT DBA-172

required item
 in syntax diagrams APP-x, DBA-xiii,
 DBSU-xiii, DIAG-xi, ISQL-xii,
 OPER-ix, PERF-ix, SQLREF-2,
 SYVM-xii, SYVM-xi

required program products for database
 manager SYVM-6

requirements
 DB2 Server for VM database machine
 software SYVM-3
 real storage PERF-205

RES counter PERF-15

resave the saved segment PERF-181

RESERVE SYVM-290

RESERVE
 restriction for SYVM-141

reserved pages DIAG-49

reserved word SQLREF-37

reserved words
 DBSU DBSU-111
 SQL APP-xii, DBA-xvii, DBSU-xvii,
 DBSU-111, DIAG-xiv, ISQL-xv,
 OPER-xii, PERF-xii, SQLREF-5,
 SYVM-xiv, SYVM-xiv
 using as identifiers DBSU-111

RESET
 example PERF-22
 operator command PERF-22

RESET CRR LOGNAMES operator
 command OPER-62

RESET HIGHSTOR operator command
 OPER-62

RESET INDOUBT command OPER-63

RESET operator command OPER-61

RESET parameter of exec DBA-249,
 DBA-257

RESET POOL command
 description OPER-202

resetting
 a database DBA-136
 a dbspace from a backup copy
 DBA-135
 counters OPER-61, OPER-62
 data using DBS RELOAD processing
 DBA-133
 database DBA-137
 the log SYVM-230, SYVM-231,
 SYVM-171, SYVM-172

resetting log names OPER-62

RESID SYVM-23

RESID
 renaming SYVM-49, SYVM-50

RESID NAMES file SYVM-23, SYVM-42,
 SYVM-49, SYVM-50

RESID parameter
 SQLDBGEN EXEC SYVM-289
 SQLDBINS EXEC SYVM-287

residual predicate PERF-122, PERF-125

resolving in-doubt logical units of work
 OPER-153

resource
 authority SQLREF-32

resource adapter
 ARISRMBT module DBA-250
 bootstrap module DBA-251
 cancel support SYVM-367
 definition SYVM-340, SYVM-264
 dropping code DBA-126, DBA-262
 for communication DBA-193
 keeping code DBA-262, DBA-263
 online, description OPER-18

resource adapter (*continued*)
 rmid (resource adapter ID), CIRB
 transaction OPER-19
 Resource Adapter DIAG-8
 resource adapter data areas
 RMAR SYVM-289
 RMXC SYVM-366
 resource authority ISQL-75, ISQL-77
 RESOURCE authority DBA-90, DBA-166
 RESOURCE authority
 ACQUIRE DBSPACE statement
 SQLREF-145
 CREATE TABLE statement
 SQLREF-220
 granting APP-268
 RESOURCE clause
 of GRANT statement SQLREF-292
 of REVOKE statement SQLREF-329
 Resource Definition Online Facility
 (RDO) APP-18
 resource names migration SYVM-45
 resource utilization calculations
 SYVM-425, SYVM-339
 RESOURCEAUTH column SQLREF-369
 RESOURCEAUTH column
 of SYSUSERAUTH and SYSUSERLIST
 SQLREF-406
 resources PERF-9
 response size
 estimating PERF-153
 response time
 application program PERF-4
 application server PERF-4
 components PERF-4
 network PERF-4
 performance PERF-1, PERF-4
 restart recovery
 definition SYVM-195, SYVM-145
 restart resynchronization
 facility OPER-152
 RESTARTCOUNT option DBSU-164
 RESTARTCOUNT parameter
 RELOAD TABLE command
 DBSU-199
 restarting
 ARISMEX SYVM-214, SYVM-157
 data load processing DBSU-46,
 DBSU-164
 from COLDLOG operation failure
 SYVM-221, SYVM-163
 from database generation failure
 SYVM-221, SYVM-163
 from database restore operation
 SYVM-219, SYVM-161
 from system failure while archiving
 SYVM-220, SYVM-163
 procedures SYVM-214, SYVM-157
 SQLADBEX SYVM-214, SYVM-157
 SQLADDBSP SYVM-214, SYVM-157
 SQLCIREO SYVM-214, SYVM-157
 SQLSTART SYVM-214, SYVM-157
 STARTUP parameter SYVM-214,
 SYVM-157
 the application server PERF-184
 RESTARTTABLE parameter
 RELOAD DBSPACE command
 DBSU-193

restore set SYVM-237, SYVM-174
 restore virtual disk backup PERF-53
 restoring
 database
 restarting from failure of
 SYVM-219, SYVM-161
 restore set and history area
 SYVM-237, SYVM-174
 starting the application server
 when restoring SYVM-216,
 SYVM-159
 STARTUP=R SYVM-216,
 SYVM-159
 nonrecoverable data SYVM-243,
 SYVM-180
 restoring a database
 ARISRST procedure SYVM-159
 procedures SYVM-215, SYVM-158
 restoring data APP-19
 restoring data
 archive tape OPER-188
 restrict
 delete rule SQLREF-13
 DELETE statement SQLREF-245
 ON DELETE clause
 of ALTER TABLE statement
 SQLREF-162
 of CREATE TABLE statement
 SQLREF-226
 RESTRICT DBA-7
 restricting
 privilege by using a view ISQL-83
 restriction
 ACQUIRE DBSPACE DBA-27
 CMS SYVM-140
 commands
 ACCESS SYVM-141
 DISK LOAD SYVM-141
 ERASE SYVM-141
 EXECIO SYVM-141
 FORMAT SYVM-141
 MOVEFILE SYVM-141
 READCARD SYVM-141
 RECEIVE SYVM-141
 RESERVE SYVM-141
 creating a view DBA-44
 EXEC SQL DBSU-143
 macros
 FSERASE SYVM-141
 FSWRITE SYVM-141
 unions APP-90
 using a view DBA-44
 restrictions
 delete rule SQLREF-16
 delete with subquery SQLREF-16
 DRDA AR protocol SYVM-389
 DRDA protocol SQLREF-425,
 SQLREF-427, SYVM-479,
 SYVM-481, SYVM-385
 isolation level SQLREF-22
 result
 ISO-ANS SQL(89) equivalent term
 SQLREF-424
 result code
See SQLCODE
 result columns of subselect SQLREF-124
 result set locator data type SQLREF-42

result specification
 DB2 Server for VSE & VM equivalent
 term SQLREF-423
 result table
 cursor APP-33
 DECLARE CURSOR statement
 SQLREF-237
 definition SQLREF-11
 RESYNCH command SYVM-114,
 SYVM-98
 resynchronization SYVM-119, SYVM-103
 resynchronization
 facility, CICS OPER-152
 resynchronization transaction SYVM-109,
 SYVM-93
 RETRIEVE facility
 CHANGE command ISQL-35
 description ISQL-31
 introduction ISQL-14
 PF12 ISQL-34, ISQL-157
 retrieving
 catalog information
 authorization DBA-55
 on columns DBA-54
 on indexes DBA-54
 on tables DBA-53
 on views DBA-55
 columns of a row APP-29
 comments in catalog tables DBA-56
 data ISQL-19
 RETURN ISQL-91
 return code
See SQLCODE
 return code reference information
 error codes DBSU-224
 return codes DBSU-224
 return codes from the Database Services
 Utility DBSU-113
 returns from DBSS entry calls OPER-163,
 OPER-191
 REVOKE APP-270, DBA-94, DBA-96
 REVOKE
 bind parameter APP-149
 performance problem index DIAG-137
 revoke authorities DIAG-329
 REVOKE option
 of CREATE PACKAGE statement
 SQLREF-204
 of preprocessor DBA-191
 REVOKE preprocessor parameter
 APP-124, APP-165
 revoke run privilege (Authorization)
 DIAG-329
 REVOKE statement
 EXECUTE IMMEDIATE statement
 SQLREF-272
 GRANT option SQLREF-333
 PREPARE statement SQLREF-315
 used to revoke
 Package Privileges SQLREF-328,
 SQLREF-329
 System Authorities SQLREF-329,
 SQLREF-330
 Table Privileges SQLREF-331,
 SQLREF-334
 revoke table privilege (Authorization)
 DIAG-329

revoking
 a user's password DBA-85
 CONNECT authority DBA-85
 privilege DBA-85, DBA-109
 privileges APP-270
 privileges
 automatic APP-271
 overview APP-270
 programs APP-273
 remote user DBA-94
 REWIND parameter DBSU-141,
 DBSU-162
 REWIND parameter, DATAUNLOAD
 DBSU-178
 rewinding tapes OPER-161
 REXX SYVM-4
 REXX
 application program
 BEGIN DECLARE SECTION
 statement SQLREF-170
 host variable SQLREF-68,
 SQLREF-271
 PREPARE statement SQLREF-314
 varying-length string variables
 SQLREF-44
 dynamic SQL SQLREF-9
 extended dynamic SQL SQLREF-10
 RIGHT command
 example ISQL-23
 PF11 ISQL-157
 reference ISQL-126
 RINO
 EXPLAIN PERF-148
 RMAR SYVM-289
 rmid option, CIRB transaction OPER-19
 RMTUSERS
 concurrency PERF-91
 RMTUSERS initialization parameter
 SYVM-49
 RMTUSERS parameter
 for initialization OPER-194
 RMXC SYVM-366
 rollback
 description APP-196, SQLREF-18
 ROLLBACK APP-16, APP-19, PERF-23
 ROLLBACK
 Batch/ICCF recovery DBA-169
 counter OPER-58
 hypothetical question support
 DBA-191
 option of FORCE command OPER-53
 use of ISQL-29
 work in application programs
 DBA-172, DBA-175
 ROLLBACK statement SQLREF-335,
 SQLREF-336
 ROLLBACK WORK APP-258, DBA-121,
 DBA-131, SYVM-251, SYVM-195
 ROLLBACK WORK
 See also ROLLBACK
 checkpoint PERF-103
 invalid index PERF-74
 ISQL PERF-112
 locking PERF-96
 performance problem index DIAG-139
 statement PERF-102
 to reduce link waits DIAG-150

 ROLLBACK WORK (*continued*)
 use to avoid lock wait problems
 DIAG-147
 ROLLBACK WORK command
 SYVM-194, SYVM-144
 rollback, automatic
 data definition statements APP-260
 deadlocks APP-258
 rolling back
 changes ISQL-29, ISQL-100
 nonrecoverable data SYVM-242,
 SYVM-179
 rolling back changes APP-19
 rolling back committed work
 See recovering from DBSS errors
 round-robin dispatcher SYVM-66,
 SYVM-60
 routine
 ARINEWUS DBA-82
 creating ISQL-69
 description ISQL-67
 DISPLAY commands ISQL-72
 displaying query result ISQL-105
 editing DBA-161
 entering data into table ISQL-69
 error mode processing ISQL-71,
 ISQL-133
 estimating dbspace size SYVM-442,
 SYVM-353
 INPUT command ISQL-72
 ISQL DBA-151, DBA-163, DBA-167
 profile ISQL-67
 running ISQL-71, ISQL-127
 SELECT statements ISQL-72
 setting isolation level ISQL-88
 sharing ISQL-71
 storing ISQL-69
 table ISQL-69
 updating ISQL-70
 where they are stored ISQL-69
 ROUTINE table DBA-151, DBA-167,
 ISQL-69
 routing
 printed output
 to POWER remote workstation
 ISQL-60
 to terminal ISQL-59
 printed reports ISQL-59
 the display of parameters OPER-194
 row
 deleting SQLREF-243
 description ISQL-1
 expansion PERF-62
 granting privilege ISQL-83
 inserting SQLREF-299
 inserting
 data from another table ISQL-78
 length
 blocking PERF-110
 level locking
 unique index PERF-96
 maximum byte count SQLREF-350
 maximum number in a table
 SQLREF-350
 overflow PERF-38
 overhead DBA-226
 pointer DBA-225, DBA-236

 row (*continued*)
 total number PERF-38
 ROW lock size APP-258
 row locking
 hot rows DIAG-183
 in catalogs DIAG-162, DIAG-179
 possible lock escalation problems
 DIAG-203, DIAG-215
 possible lock wait problems
 DIAG-145, DIAG-164, DIAG-203
 use of DIAG-177, DIAG-184,
 DIAG-203
 ROW value for LOCK clause
 of ACQUIRE DBSPACE statement
 SQLREF-146
 of ALTER DBSPACE statement
 SQLREF-149
 ROWCOUNT
 catalog table PERF-38
 estimating response size PERF-154
 use in determining column selectivity
 DIAG-152
 use to find hot spots DIAG-183
 ROWCOUNT column SQLREF-369
 ROWCOUNT column
 of SYSCATALOG SQLREF-376
 RPL control block of VSAM DIAG-281
 RR attribute
 isolation level SQLREF-20
 isolation level
 CREATE PACKAGE statement
 SQLREF-203
 RR isolation level DBSU-219
 RS attribute
 isolation level SQLREF-22,
 SQLREF-204
 isolation option
 CREATE PACKAGE statement
 SQLREF-203
 rs-locator-variable SQLREF-167
 rules
 See also delete/insert/update rule
 evaluating predicates APP-42
 naming data object APP-25
 naming data objects DBSU-110
 SQL in assembler APP-312
 SQL in C APP-330
 SQL in Fortran APP-370
 SQL in PL/I APP-382
 RUN authority DBA-191
 RUN command
 description ISQL-71, ISQL-127
 example ISQL-71
 isolation level setting ISQL-88
 run-time authorization ID SQLREF-41
 RUNAUTH column SQLREF-369
 RUNAUTH column
 of SYSPROG AUTH SQLREF-397
 RUNMODE keyword
 LIST command ISQL-72, ISQL-120
 SET command ISQL-71, ISQL-133
 running
 application programs
 multiple user mode SYVM-70
 single user mode SYVM-80,
 SYVM-72

running (*continued*)
 Database Services Utility
 multiple user mode DBSU-7
 single user mode DBSU-7
 multiple user mode SYVM-80
 routines
 description ISQL-71
 isolation level ISQL-88
 RUN command ISQL-127
 SQLLOG EXEC SYVM-232
 running out of
 DASD PERF-58
 RUOW (remote unit of work)
See remote unit of work (RUOW)
 RXSQL SYVM-4

S

SAM
 files managed by SYVM-189
 space management
 accounting files SYVM-190
 sample
 character sets SYVM-308, SYVM-234
 database sizes SYVM-10
 sample program
 ARIS6ASD APP-308
 ARIS6CBC APP-352
 ARIS6CBD APP-352
 ARIS6CC APP-330
 ARIS6CD APP-330
 ARIS6FTC APP-370
 ARIS6FTD APP-370
 ARIS6PLC APP-382
 ARIS6PLD APP-382
 EXECs APP-22
 list APP-21
 sample table
 ACTIVITY DBSU-242, ISQL-150,
 SQLREF-410
 CL_SCHED DBSU-247, ISQL-155,
 SQLREF-411
 DEPARTMENT DBSU-235, ISQL-143,
 SQLREF-411
 EMP_ACT DBSU-245, ISQL-153,
 SQLREF-413
 EMPLOYEE DBSU-237, ISQL-145,
 SQLREF-412
 IN_TRAY DBSU-247, ISQL-155,
 SQLREF-415
 PROJ_ACT DBSU-243, ISQL-151,
 SQLREF-416
 PROJECT DBSU-241, ISQL-149,
 SQLREF-415
 sampling interval PERF-14
 sargable
 affect of CCSID PERF-131
 predicate PERF-122, PERF-125
 SAVE command ISQL-128
 save interval
 choosing PERF-203
 SET OPER-205
 SHOW OPER-211
 understanding PERF-167
 saved segment OPER-3
 saved segment
 defining SYVM-10
 resaving PERF-176
 saved segments PERF-47
 saved segments
 defining SYVM-179
 loading PERF-182, SYVM-186
 overlaps SYVM-179
 SEGMENT RESERVE command
 SYVM-173, SYVM-179, SYVM-190
 stop using SYVM-190
 saved segments (DCSS)
 national language SYVM-335
 saved segments, use to avoid paging
 DIAG-227
 SAVEINTV
 DB2 Server DSS PERF-104
 SAVEINTV initialization parameter
 OPER-196
 saving
 segments PERF-182, SYVM-186
 saving format information
 CHANGE ISQL-102
 START ISQL-135
 STORE ISQL-63, ISQL-136
 saving input
 on an INPUT command ISQL-128
 saving SQL statements
See stored SQL statements
 SBSC
 character SQLREF-6
 SBSC character set
 folding rules SYVM-305, SYVM-231
 SBSC data
 CREATE TABLE statement
 SQLREF-224
 description SQLREF-44
 handling after migration SYVM-34,
 SYVM-41
 MCCSIDGRAPHIC SYVM-34,
 SYVM-41
 MCCSIDMIXED SYVM-34, SYVM-41
 MCCSIDBCS SYVM-34, SYVM-41
 SQLDA SQLREF-361
 subtype DBA-34
 SBSCSID column SQLREF-369
 SBSCSID column
 of SYSCCSIDS SQLREF-378
 SBLOCK option
 of CREATE PACKAGE statement
 SQLREF-204
 SBLoK preprocessor parameter APP-120
 scalar function
See also function
 CCSID SQLREF-32
 description SQLREF-96
 scale
 decimal data SQLREF-48
 scale of data
 comparisons in SQL SQLREF-58
 conversion of numbers in SQL
 SQLREF-54
 determined by SQLLEN variable
 SQLREF-361
 results of arithmetic operations
 SQLREF-73
 scale of decimal result DBA-180
 scan
 dbspace PERF-118
 index PERF-118
 scan control blocks SYVM-67, SYVM-60
 scan table SYVM-67, SYVM-61
 scans, concurrent OPER-184
 SCHEDULE authority DBA-90
 SCHEDULE authority
 granting APP-268
 SCHEDULE clause
 of GRANT statement SQLREF-291,
 SQLREF-292
 of REVOKE statement SQLREF-329,
 SQLREF-330
 SCHEDULEAUTH column SQLREF-369
 SCHEDULEAUTH column
 of SYSUSERAUTH and SYSUSERLIST
 SQLREF-406
 scheduling
 fair share PERF-78
 SCHEMA
 command DBSU-140
 input file DBSU-142
 SCIF facility OPER-44
 scope
 cursor APP-34
 WHENEVER statement APP-199
 SCREATOR column SQLREF-369
 SCREATOR column
 of SYSTABAUTH SQLREF-403
 scrolling through a query result
 backward ISQL-99
 description ISQL-20, ISQL-21
 forward ISQL-116
 left ISQL-119
 right ISQL-126
 search
 inefficient DIAG-195
 missing condition DIAG-208
 search condition
See also where-clause
 AND operator APP-41
 arithmetic operators APP-52
 comparison operators APP-42
 constant APP-53
 DELETE statement SQLREF-244
 description APP-39, SQLREF-89
 expressions APP-53
 false SQLREF-89
 host variables APP-53
 join conditions APP-66
 missing DIAG-208
 NOT keyword APP-41
 OR operator APP-41
 order of evaluation SQLREF-90
 parentheses SQLREF-90
 precedence rules APP-41, APP-52
 predicate SQLREF-89
 predicates APP-41
 true SQLREF-89
 unknown SQLREF-89
 search_condition
 in DELETE statement SQLREF-244
 in HAVING clause SQLREF-126
 in UPDATE statement SQLREF-340,
 SQLREF-341
 in WHERE clause SQLREF-125
 Searched form
 of DELETE statement SQLREF-243
 of UPDATE statement SQLREF-339

SECALVER initialization parameter
 SYVM-61, SYVM-54
 SECALVER initialization parameter
 description OPER-189
 SECALVER parameter
 for initialization OPER-189
 SECOND
 function SQLREF-107
 labeled duration SQLREF-71,
 SQLREF-75
 second level guest PERF-81
 secondary database machine SYVM-272
 secondary production minidisk
 SYVM-273
 secondary production minidisk
 defining SYVM-274
 example SYVM-273
 SECONDS
 labeled duration SQLREF-71
 section
 in package SQLREF-18
 section_variable
 description SQLREF-40
 in DROP STATEMENT statement
 SQLREF-263
 in Extended DECLARE CURSOR
 statement SQLREF-241
 in Extended DESCRIBE statement
 SQLREF-252
 in Extended PREPARE statement
 SQLREF-319
 SECTNO column SQLREF-369
 SECTTYPE column SQLREF-369
 SECTYPE initialization parameter
 SYVM-61, SYVM-54
 SECTYPE initialization parameter
 description OPER-189
 SECTYPE parameter
 for initialization OPER-189
 securing the database catalog table
 DBA-109
 security
 audit tracing OPER-164, OPER-192
 auditing OPER-164, SYVM-66
 auditing
 loading information into a table
 DBA-114
 printing information DBA-118
 through the catalog table DBA-111
 tracing DBA-111
 authority DBA-89
 batch and VSE/ICCF applications
 DBA-169
 conversation level SYVM-136
 database catalog table DBA-109
 DBS Utility application DBA-170
 distributed processing
 administration SYVM-139
 security SYVM-138
 DRDA SYVM-122
 maintaining SYVM-135, SYVM-143,
 SYVM-119, SYVM-121
 online application DBA-171
 privilege DBA-89
 providing DBA-89
 session level SYVM-136
 user ID translation SYVM-139

security (*continued*)
 userid resolution SYVM-140
 VM directory control statement
 IUCV *IDENT SYVM-138
 IUCV ALLOW SYVM-138
 IUCV ANY SYVM-138
 VM/ESA operating systems
 SYVM-138
 SEGMENT FIND
 used by database manager SYVM-84
 SEGMENT LOAD
 used by database manager SYVM-84
 SEGMENT RESERVE command
 SYVM-173, SYVM-179, SYVM-190
 segment saving PERF-182, SYVM-186
 segments, saved PERF-47
 SELECT
 ALL APP-29
 ALL keyword APP-78
 ANY keyword APP-78
 clause APP-28
 constants APP-29
 correlation APP-80
 DISTINCT keyword APP-28
 error handling APP-210
 EXISTS APP-88
 group-by-clause APP-30
 grouping APP-71
 having-clause APP-31
 INTO clause APP-38
 introduction APP-26
 joins APP-66
 NOT EXISTS predicate APP-88
 order of clauses APP-73
 ordering results APP-38
 performance problem index DIAG-137
 SELECT * form APP-29
 select-clause APP-28
 select-list APP-28
 subqueries APP-76
 unions APP-89
 where-clause APP-30
 SELECT *
 basic queries APP-29
 join APP-71
 views APP-62
 SELECT clause
 of GRANT statement SQLREF-294,
 SQLREF-295
 of REVOKE statement SQLREF-331,
 SQLREF-332
 of SELECT INTO statement
 SQLREF-337
 of subselect SQLREF-121,
 SQLREF-122
 SELECT DBSPACENO statement
 OPER-85
 SELECT INTO
 assignment rules SQLREF-53
 description SQLREF-337, SQLREF-338
 select list SQLREF-122
 select list (*continued*)
 application SQLREF-123
 constants APP-29
 description APP-28
 error handling APP-210

select list (*continued*)
 maximum number of elements
 SQLREF-350
 notation SQLREF-122
 restrictions
 GROUP BY APP-72
 SELECT list, inefficient DIAG-198
 SELECT privilege
 routine ISQL-71
 Select statement
 terminating DBSU-169
 SELECT statement
 arithmetic exception DBSU-143
 command processing DBSU-22
 data and isolation level setting
 ISQL-88
 isolation level setting ISQL-89
 multiple-row query DBSU-22
 online reference information ISQL-117
 routine ISQL-72
 using ISQL-19
 using with DATAUNLOAD
 DBSU-169
 select-statement
 description APP-27
 fullselect SQLREF-133
 in DECLARE CURSOR statement
 SQLREF-236, SQLREF-237
 in EXECUTE IMMEDIATE statement
 SQLREF-272
 in PREPARE statement SQLREF-315
 invocation SQLREF-140
 SELECTAUTH column SQLREF-369
 SELECTAUTH column
 of SYSTABAUTH SQLREF-404
 selecting
 all columns of a row APP-29
 character sets SYVM-57, SYVM-51
 column ISQL-19
 data from
 another user's table or view
 ISQL-84
 isolation level APP-136, APP-172
 online help information ISQL-16
 typing a command while viewing a
 HELP display ISQL-16
 selective
 archive PERF-105
 index
 scan PERF-118
 selective index, definition of DIAG-132
 selectivity, false sense of DIAG-152
 self-referencing table APP-290, DBA-7
 self-referencing table
 definition SQLREF-15
 separating queries into subquery
 structures PERF-150
 separation between columns, modifying
 ISQL-40, ISQL-56
 separator
 column
 character displayed ISQL-56
 modify ISQL-40
 setting for a session ISQL-133
 setting for current query result
 ISQL-114
 decimal ISQL-56, ISQL-130

separator (*continued*)
 thousands ISQL-56, ISQL-130

SEPARATOR keyword
 FORMAT command
 description ISQL-40
 multiple keywords ISQL-46,
 ISQL-52
 reference ISQL-114
 STORE ISQL-61
 LIST command ISQL-59, ISQL-120
 SET command
 character displayed ISQL-56
 example ISQL-59
 reference ISQL-133

SEPINTDB
 unmapped internal dbspaces
 PERF-192

SEPINTDB initialization parameter
 OPER-197

SEQNO column SQLREF-369

SEQNO column
 of SYSFPARMS SQLREF-387
 of SYSVIEWS SQLREF-407

sequence numbers in input control card
 file records DBSU-135

sequence of clauses APP-73

sequence of loading SYVM-82

SEQuence preprocessor parameter
 APP-126, APP-166

sequential access method
 files managed by SYVM-189
 space management SYVM-188

sequential file output DBSU-177

sequential processing, possible I/O
 problems DIAG-224

serialization, on page faults DIAG-220

server name SYVM-23

server name
 choosing SYVM-23
 migration consideration SYVM-40

server_name
 description SQLREF-40
 in CONNECT statement SQLREF-186,
 SQLREF-192
 length limitation SQLREF-349

server_name option
 CIRA transaction OPER-34, OPER-35
 CIRB transaction OPER-20
 CIRC transaction OPER-36
 CIRD transaction OPER-21

server_names
 on the CIRA transaction SYVM-107,
 SYVM-91
 on the CIRB transaction SYVM-102,
 SYVM-86

service
 corrective PERF-175
 preventive PERF-175

service disk storage requirements
 SYVM-6

service machine DBA-193

service machine
 converting to a database machine
 SYVM-49
 defining SYVM-9
 example SYVM-271
 in a collection SYVM-270

service machine (*continued*)
 minidisks SYVM-8
 size SYVM-4

service minidisk SYVM-6

session
 DB2 Server for VSE & VM terminal
 definition ISQL-3
 starting ISQL-3, ISQL-5
 DB2/VM terminal
 starting ISQL-4

session limit
 exceeded DIAG-226

session limit (AVS) SYVM-270

session manager
 support ISQL-4

SET
 isolation level ISQL-87, ISQL-131
 LIST command ISQL-59, ISQL-72

SET APPCVM OPER-17, SYVM-97,
 SYVM-81

SET clause
 of UPDATE statement SQLREF-340

SET command OPER-63

SET command
 AUTOCOMMIT option ISQL-30
 description ISQL-56, ISQL-59
 reference ISQL-129

SET ERRORMODE DBA-170

set function
 DB2 Server for VSE & VM equivalent
 term SQLREF-423

SET keyword of LIST command
 ISQL-120

SET LANGUAGE operator command
 OPER-56

SET MACHINE command SYVM-90

set null
 delete rule SQLREF-13
 DELETE statement SQLREF-245
 ON DELETE clause
 of ALTER TABLE statement
 SQLREF-162
 of CREATE TABLE statement
 SQLREF-226

SET NULL DBA-7

SET POOL OPER-203, PERF-191

SET QDROP OFF USERS
 not being used DIAG-226
 specifying DIAG-226
 to avoid paging DIAG-221

SET QUERYNO clause
 of EXPLAIN statement SQLREF-275

SET QUICKDSP
 fair share scheduling PERF-79

SET QUICKDSP ON DIAG-226

SET RUNMODE DBA-164

SET SAVEINTV OPER-205

SET SHARE
 fair share scheduling PERF-79

SET STATISTICS OFF, on DATALOAD
 DIAG-234

SET TARGETWS OPER-206

set_null_clause
 reference DBSU-175

set-item commands DBSU-218

set-item commands
 SET AUTOCOMMIT DBSU-214

set-item commands (*continued*)
 SET ERRORMODE DBSU-215
 SET FORMAT DBSU-217
 SET ISOLATION DBSU-218
 SET LINECOUNT, SET LINEWIDTH
 DBSU-219
 SET UPDATE STATISTICS DBSU-220

setting
 autocommit of changes to tables
 ISQL-30
 autocommit of data ISQL-129
 characters displayed
 FORMAT command ISQL-114
 FORMAT NULL command
 ISQL-113
 SET command ISQL-56, ISQL-133
 SET NULL command ISQL-57,
 ISQL-131
 continuation character ISQL-130
 default character subtype SYVM-327,
 SYVM-253
 displayed width for variable character
 field ISQL-114
 language for message and HELP text
 ISQL-58
 lines per page DBSU-219
 number of copies for printed reports
 ISQL-57, ISQL-130
 operational characteristics ISQL-129
 output class for printed reports
 ISQL-129
 output format DBSU-217
 page size for printed report ISQL-57
 page width DBSU-219
 punctuation displayed for numeric
 column ISQL-56, ISQL-130
 routing printed output
 to POWER remote workstation
 ISQL-60
 to terminal ISQL-59
 RUNMODE option ISQL-71
 uppercase input ISQL-129

SETTING clause
 of Extended PREPARE statement
 SQLREF-319

setting fair share interval size DIAG-22

setting up
 a new DB2 Server for VSE & VM user
See new user support
 new ISQL user DBA-82

setting up a stored procedure server
 DBA-210

setting up job control for the accounting
 files SYVM-187

setting up your database job control
 SYVM-217

SG trace OPER-164, OPER-192

shadow page PERF-202

shadow page
 accumulating PERF-60
 checkpoint PERF-104
 checkpoint process PERF-103
 dbspace full PERF-65
 description PERF-60, PERF-63,
 PERF-103
 number in use PERF-64
 page map table PERF-63

shadow page (*continued*)
 short on storage PERF-59
 shadow pages DIAG-58
 shadow paging SYVM-433, SYVM-344
 share
 description PERF-95
 isolation level SQLREF-20
 lock
 description PERF-94
 with intent exclusive lock PERF-95
 share lock
 description APP-258, APP-259,
 DIAG-69
 SHARE lock DBSU-228, PERF-114
 SHARE option
 IN SHARE MODE clause
 LOCK DBSPACE statement
 SQLREF-306
 LOCK TABLE statement
 SQLREF-307
 share with intent exclusive lock
 description DIAG-70
 shared file system directory (SFS
 directory)
 production minidisk size SYVM-6
 service minidisk size SYVM-6
 work minidisk size SYVM-6
 shared segment SYVM-173
 shared system area (SVA)
 eligible phases SYVM-228
 sample SYVM-228
 shared virtual area (SVA)
 defining components SYVM-228
 eligible phases SYVM-228
 sharing
 routines ISQL-71
 table with another user ISQL-82,
 ISQL-83
 sharing, guest OPER-v, OPER-17
 sharing, VSE guest DBA-201
 shift in/out delimiters, DBCS DBSU-230
 shift-in character APP-51
 shift-in character
 convention (>) SQLREF-6
 not truncated by assignments
 SQLREF-56
 representation of DBCS delimiter
 character X'0F' SQLREF-6
 shift-in character X'0F'
 mixed data values SQLREF-45
 shift-out character APP-51
 shift-out character
 convention (<) SQLREF-6
 representation of DBCS delimiter
 character X'0E' SQLREF-6
 shift-out character X'0E'
 mixed data values SQLREF-45
 short identifier SQLREF-37
 short on storage
 checkpoint PERF-103
 example PERF-27
 flag OPER-85, OPER-121
 initialization parameter PERF-59
 level OPER-187
 managing pool space PERF-59
 SHOW POOL PERF-60
 SOSLEVEL PERF-59
 short string
 column SQLREF-44
 shorter path length PERF-197
 SHOW ISQL-134
 SHOW
 operator command PERF-9, PERF-25
 SHOW ACTIVE OPER-206, SYVM-114,
 SYVM-98
 SHOW ACTIVE
 operator command PERF-28
 SHOW ACTIVE command
 description OPER-65
 display
 NEW OPER-66
 NIW OPER-66
 R/O OPER-66
 R/W OPER-66
 example OPER-68
 forcing OPER-51
 forcing remote users to end work
 OPER-53
 SHOW ADDRESS command OPER-69
 SHOW BUFFERS OPER-207
 SHOW BUFFERS command OPER-70
 SHOW command OPER-135
 SHOW commands OPER-65, OPER-133
 SHOW CONNECT
 command OPER-73
 command
 forcing remote users to end work
 OPER-53
 forcing users to end work
 OPER-51
 concurrency PERF-90
 for CRR in VM/ESA OPER-79
 for Stored Procedures OPER-79
 operator command PERF-29,
 PERF-33, PERF-35
 SHOW CRR LOGNAMES command
 OPER-80
 SHOW DBCONFIG command OPER-81
 SHOW DBEXTENT
 available storage pool space PERF-65
 command OPER-84
 operator command PERF-25
 SHOW DBSPACE DBA-27, DBA-78
 SHOW DBSPACE
 command OPER-85
 operator command PERF-25
 SHOW INDOUBT
 records DIAG-322
 SHOW INDOUBT command OPER-87
 SHOW INITPARM command OPER-89
 SHOW INVALID
 command OPER-90
 invalid index PERF-74
 transient index PERF-75
 SHOW LOCK
 ACTIVE command OPER-93
 ACTIVE, use to find communication
 waits DIAG-149
 AGENT, uses of DIAG-176
 DBSPACE command OPER-96
 GRAPH command OPER-98
 MATRIX command OPER-103
 MATRIX, use to find LRBs needed
 DIAG-214
 SHOW LOCK (*continued*)
 operator command PERF-35
 USER command OPER-106
 USER, uses of DIAG-176
 WANTLOCK command OPER-108
 WANTLOCK, to find key lock
 conflicts DIAG-164
 SHOW LOCK ACTIVE OPER-208
 SHOW LOCK ACTIVE
 operator command PERF-36
 SHOW LOCK GRAPH OPER-209
 SHOW LOCK GRAPH
 operator command PERF-36
 SHOW LOCK MATRIX
 lock escalation PERF-100
 operator command PERF-36, PERF-37
 SHOW LOCK MATRIX command
 SYVM-65, SYVM-59
 SHOW LOCK USER
 operator command PERF-37
 SHOW LOG
 log cushion PERF-108
 scheduling archives SYVM-202,
 SYVM-153
 scheduling log archives SYVM-208,
 SYVM-156
 scheduling user archives SYVM-206,
 SYVM-154
 SHOW LOG command OPER-113
 SHOW LOGHIST command OPER-114
 SHOW POOL OPER-209
 SHOW POOL
 available dbextent space PERF-65
 operator command PERF-26
 shadow page PERF-64
 short on storage PERF-60
 SHOW POOL command OPER-118
 SHOW PROC command OPER-122
 SHOW PSERVER command OPER-125
 SHOW SAVEINTV OPER-211
 SHOW SQLDBGEN
 command OPER-127
 SHOW STORAGE
 operator command PERF-27
 SHOW STORAGE command OPER-130
 SHOW SYSTEM command OPER-133
 SHOW TARGETWS OPER-212
 SHOW TARGETWS
 DB2 Server DSS PERF-9
 SHOW USERS SYVM-93, SYVM-96,
 SYVM-79
 SHOW USERS
 concurrency PERF-90
 operator command PERF-29
 pseudo-agents PERF-92
 SHOW USERS command OPER-135
 shutdown
 checkpoint PERF-103
 shutdown of the application server
 SYVM-91, SYVM-78
 shutting down the application server
 archives OPER-14
 description OPER-11
 normal shutdown OPER-14
 online support OPER-29
 signing off the DB2 Server for VM system
 console SYVM-91, SYVM-141

signing off the DB2 Server for VSE
 system console OPER-11
 signing on
 to ISQL ISQL-7
 to ISQL from another CICS task
 ISQL-161
 signon screen
 description ISQL-6
 suppressing ISQL-161
 single console image facility (SCIF)
 SYVM-53
 Single Console Image Facility (SCIF)
 OPER-44
 single partition mode
 See single user mode
 single precision float APP-45
 single precision floating-point
 SQLREF-47
 single quotation mark
 COBOL considerations APP-119,
 APP-161, APP-357
 COMMENT command DBSU-138
 considerations in COBOL APP-119,
 APP-161
 constant APP-57
 option values DBSU-136
 single record into several tables DBSU-40
 SINGLE ROW clause
 of Extended PREPARE statement
 SQLREF-319
 single row select SQLREF-337
 single user mode APP-112, DIAG-13
 single user mode
 AMODE(24) SYVM-81, SYVM-82
 CALL/RETURN protocols for
 application programs SYVM-86,
 SYVM-74
 DBSS DIAG-13
 definition SYVM-53, SYVM-47
 description OPER-8
 executing applications APP-146
 initialization parameter OPER-189
 initialization parameters SYVM-73,
 SYVM-67
 invoking a program
 example APP-147
 invoking the preprocessors APP-114,
 APP-154
 job control example DBSU-106
 program name OPER-186
 RDS DIAG-13
 running DBSU-7
 running application programs
 SYVM-80, SYVM-72
 specifying user parameters APP-147
 starting application server SYVM-72
 starting the application server
 SYVM-81
 starting the application server and
 providing user parameters SYVM-85
 starting the Database Services Utility
 DBSU-106
 the application server OPER-8
 use for loading DIAG-207
 user program OPER-9
 single user mode (SUM)
 allocating users to agents PERF-89
 single user mode (SUM) (*continued*)
 blocking PERF-111
 fetch and insert blocking PERF-83
 logmode PERF-106
 running PERF-93
 single value queries DBSU-23
 single virtual machine mode APP-112
 single virtual machine mode
 definition SYVM-53, SYVM-47
 single-byte character in LIKE predicates
 SQLREF-87
 single-partition mode
 locking considerations APP-258
 single-precision float DBSU-181
 single-row query results APP-39
 single-volume tapes SYVM-75
 size
 database SYVM-15, SYVM-15
 directory SYVM-14, SYVM-284,
 SYVM-14
 internal dbspaces needed SYVM-20,
 SYVM-20
 log SYVM-14, SYVM-17, SYVM-14,
 SYVM-17
 log
 by DASD type SYVM-447,
 SYVM-359
 printed page for reports ISQL-132
 size of dbspace, estimating DBA-23,
 DBA-223
 size of responses, estimating PERF-153
 size parameter DBA-23
 SIZE=AUTO
 invoking preprocessors APP-156
 skipping bad records DBSU-45
 slash (/) initialization option OPER-9
 SLOGCUSH
 tuning parameter PERF-107
 SLOGCUSH initialization option
 log size OPER-113
 SLOGCUSH initialization parameter
 description OPER-187, SYVM-70,
 SYVM-63
 freeing log space SYVM-202,
 SYVM-207, SYVM-153, SYVM-155
 slots
 use of SYVM-155, SYVM-131
 SLOW RESPONSE DIAG-97
 small integer
 definition SQLREF-47
 SMALLINT
 data type SQLREF-159, SQLREF-223
 SMALLINT data type DBSU-151
 SMALLINT data type
 assembler APP-317
 C APP-346
 COBOL APP-364
 Fortran APP-378
 PL/I APP-391
 SMALLINT data type of column DBA-32
 smoothing keys DIAG-153
 SNA (see Systems Network Architecture)
 SYVM-268
 SNA NETID file SYVM-11
 SNA network
 distributed database PERF-81
 snapshot dump OPER-162
 software problems PERF-2
 software requirement PERF-172
 software requirements SYVM-3
 Solutions Directory PERF-8
 SOME
 in a quantified predicate SQLREF-80
 SOME keyword APP-78
 sort
 concepts DIAG-54
 description DIAG-54
 possible I/O problems DIAG-224
 required on CREATE INDEX
 DIAG-166
 spreading DIAG-166
 sort specification
 DB2 Server for VSE & VM equivalent
 term SQLREF-423
 SORT trace OPER-163, OPER-191
 sorting
 index PERF-120
 sorting sequence, altering by a field
 procedure SYVM-369, SYVM-290
 SOSLEVEL
 initialization option OPER-121
 initialization parameter OPER-187
 SOSLEVEL initialization parameter
 SYVM-71, SYVM-65
 source code
 ARIS6ASC APP-308
 ARIS6ASD APP-308
 ARIS6CBC APP-352
 ARIS6CBD APP-352
 ARIS6CC APP-330
 ARIS6CD APP-330
 ARIS6FTC APP-370
 ARIS6FTD APP-370
 ARIS6PLC APP-382
 ARIS6PLD APP-382
 source members OPER-5
 source members
 A-type OPER-5
 ARISDTM member SYVM-276,
 SYVM-284
 cataloging example OPER-6
 cataloguing SYVM-77
 Source Statement Library
 input APP-177
 source value APP-48
 space SQLREF-36
 space
 DB2 Server for VM production
 minidisk SYVM-6
 DB2 Server for VM service minidisk
 SYVM-6
 space allocations
 log and dbextent data sets SYVM-342
 log and dbextent minidisks SYVM-429
 space management DIAG-51
 SPANISH character set SYVM-315,
 SYVM-241
 spanned records SYVM-76
 spanning records
 control file records DBSU-159
 input control card file records
 DBSU-159
 multiple input records DBSU-42
 special character SQLREF-35

- special characters
 - identifiers DBSU-111
 - special register
 - CCSID SQLREF-32
 - CURRENT DATE SQLREF-62
 - CURRENT SERVER SQLREF-63
 - CURRENT TIME SQLREF-63
 - CURRENT TIMESTAMP SQLREF-63
 - CURRENT TIMEZONE SQLREF-63
 - description APP-53, SQLREF-62
 - expressions APP-53
 - remote unit of work APP-54
 - USER SQLREF-62
 - special statements
 - UPDATE STATISTICS APP-262
 - special_register
 - in IN predicate SQLREF-84
 - in INSERT statement SQLREF-299
 - specification file
 - storage pool
 - changing PERF-188
 - format PERF-207, PERF-208
 - identifying PERF-189
 - writing PERF-208
 - specifying
 - initial dbspace SYVM-296
 - user parameters SYVM-85, SYVM-73
 - specifying isolation levels DIAG-66
 - SPIE exit
 - considerations SYVM-87
 - splitting
 - tables DIAG-148, DIAG-233
 - work among DB machines DIAG-217
 - spreading sorts DIAG-166
 - SQL
 - command buffer ISQL-31
 - command line buffer ISQL-31, ISQL-35
 - description ISQL-1
 - keyword
 - LIST command ISQL-65, ISQL-120
 - reserved words DBSU-111
 - statement processing DBSU-143
 - statements
 - ALTER TABLE ISQL-79
 - COMMENT ISQL-76
 - COMMIT ISQL-29
 - CREATE INDEX ISQL-85
 - CREATE SYNONYM ISQL-84
 - CREATE TABLE ISQL-77, ISQL-78
 - current ISQL-61, ISQL-63
 - DROP INDEX ISQL-85
 - DROP SYNONYM ISQL-85
 - DROP TABLE ISQL-78
 - GRANT ISQL-83
 - INSERT ISQL-78
 - listing more than one stored ISQL-65
 - listing those previously stored ISQL-65
 - preventing immediate processing ISQL-36
 - previous ISQL-61, ISQL-63
 - recalling one previously stored ISQL-63
 - renaming one previously stored ISQL-65
 - SQL (*continued*)
 - statements (*continued*)
 - replacing ISQL-61
 - ROLLBACK ISQL-29
 - SELECT ISQL-19
 - starting stored statement ISQL-62
 - UPDATE STATISTICS ISQL-86
 - SQL comment
 - in Database Services Utility commands DBSU-24
 - SQL comments
 - assembler APP-314
 - C APP-331
 - COBOL APP-353
 - Fortran APP-370
 - in static SQL statements APP-92
 - PL/I APP-382
 - SQL communication area (SQLCA)
 - contents SQLREF-353
 - entry changed by UPDATE SQLREF-342
 - INCLUDE statement SQLREF-297
 - INSERT statement SQLREF-302
 - PUT statement SQLREF-324
 - SQL declare section APP-8, APP-55, APP-312, APP-332, APP-354, APP-371, APP-383
 - SQL descriptor area (SQLDA)
 - contents SQLREF-359
 - DESCRIBE statement SQLREF-250
 - EXECUTE statement SQLREF-265
 - Extended EXECUTE statement SQLREF-270
 - Extended PREPARE statement SQLREF-320
 - FETCH statement SQLREF-285
 - INCLUDE statement SQLREF-297
 - LABEL ON statement SQLREF-305
 - maximum size SQLREF-350
 - OPEN statement SQLREF-309
 - PUT statement SQLREF-323
 - SQL Descriptor Area (SQLDA)
 - assembler declaration APP-316
 - C declaration APP-345
 - COBOL declaration APP-362
 - Fortran declaration APP-376
 - PL/I declaration APP-389
 - Structure APP-232
 - SQL dynamic statement support
 - DBA-157
 - SQL identifier SQLREF-36
 - SQL identifier
 - description APP-25
 - SQL statements
 - COMMIT DBSU-19
 - CONNECT DBSU-19
 - embedding in application program examples APP-12
 - SELECT DBSU-19
 - using DBSU-19
 - within Database Services Utility DBSU-19
 - SQL statements associated with a system error DIAG-296
 - SQL statements, analyzing PERF-141
 - SQL system
 - user identification DBSU-20
- SQL-89
 - conformance checking APP-133, APP-167, APP-168, APP-252
 - SQLABC field of SQLCA SQLREF-353
 - SQLADBEX EXEC SYVM-162
 - SQLADBEX EXEC
 - example SYVM-159, SYVM-161
 - SQLADBEX file SYVM-164
 - SQLADDBSP EXEC SYVM-20, SYVM-145, SYVM-146
 - SQLADDBSP EXEC
 - example SYVM-150
 - SQLADDBSP file SYVM-147
 - SQLADDBSP file SYVM-147
 - SQLAID field of SQLCA SQLREF-353
 - SQLApost preprocessor parameter APP-126
 - sqlBlnd preprocessor parameter APP-127
 - SQLBOOTS EXEC SYVM-190, SYVM-472
 - SQLCA (SQL Communications Area)
 - assembler declaration APP-315
 - C declaration APP-344
 - COBOL APP-361
 - description APP-197
 - Fortran APP-375
 - PL/I declaration APP-388
 - testing APP-200
 - SQLCABC field of SQLCA SQLREF-353
 - SQLCAID field of SQLCA SQLREF-353
 - SQLCDBEX EXEC SYVM-151, SYVM-169
 - SQLCIREO EXEC DBA-79
 - SQLCOD field of SQLCA SQLREF-353
 - SQLCODE APP-11, APP-196
 - SQLCODE
 - 522 SYVM-67, SYVM-61
 - 649 PERF-143
 - 911 PERF-102
 - 912 PERF-100
 - 915 PERF-100
 - 937 SYVM-132, SYVM-116
 - 945 SYVM-155, SYVM-131
 - 946 SYVM-155, SYVM-131
 - +100 SQLREF-284, SQLREF-300, SQLREF-337, SQLREF-347
 - description SQLREF-143
 - field of SQLCA SQLREF-353
 - negative SQLREF-347
 - positive SQLREF-347
 - statement execution SQLREF-141
 - SQLCODE 100 (not found)
 - FETCH APP-35
 - SQLD field in the SQLDA APP-234
 - SQLD field of SQLDA SQLREF-248, SQLREF-360
 - SQLDA
 - See also* SQL descriptor area (SQLDA)
 - CCSID values in SQLDATA field SQLREF-363
 - CCSID values in SQLNAME field SQLREF-363
 - date field length SQLREF-48
 - SQLLEN field values for host variables SQLREF-362
 - SQLTYPE field values for host variables SQLREF-362
 - time field length SQLREF-49
 - timestamp field length SQLREF-49

SQLDA (SQL Descriptor Area)
summary APP-232

SQLDABC field of SQLDA SQLREF-248,
SQLREF-360

SQLDAID field of SQLDA SQLREF-248,
SQLREF-360

SQLDATA field of SQLDA SQLREF-249,
SQLREF-361

SQLDAX structure (in PL/I) APP-389

SQLDBA
bootstrap package SYVM-174
password SYVM-299
SQLDBBT module SYVM-175
SQLISBT module SYVM-175
SQLRMBT module SYVM-175
user ID SYVM-299

SQLDBA SQLDBBT Q SYVM-472

SQLDBA SQLISBT Q SYVM-472

SQLDBA SQLRMBT Q SYVM-472

SQLDBA.ARINWUS DBA-82

SQLDBA.ROUTINE
CHARNAME change SYVM-58,
SYVM-51

SQLDBA.STORED QUERIES
CHARNAME change SYVM-58,
SYVM-51

SQLDBA.SYSLANGUAGE
CHARNAME change SYVM-58,
SYVM-51

SQLDBA.SYSLANGUAGE table
SYVM-334, SYVM-260

SQLDBA.SYSTEXT2
CHARNAME change SYVM-58,
SYVM-51

SQLDBA.SYSUSERLIST
CHARNAME change SYVM-58,
SYVM-51

SQLDBAPW password OPER-30

SQLDBDEF EXEC SYVM-473, SYVM-381

SQLDBDEF EXEC
syntax SYVM-474

SQLDBDEF utility DBA-79, SYVM-46

SQLDBGEN example SYVM-292

SQLDBGEN EXEC SYVM-288

SQLDBGEN EXEC
files used by SYVM-292
format SYVM-288
preparing input for SYVM-288

SQLDBGEN file SYVM-49, SYVM-300

SQLDBGEN file
renaming a resource identifier
SYVM-50

SQLDBID EXEC DBA-261

SQLDBINS EXEC SYVM-286, SYVM-287

SQLDBINS EXEC
format SYVM-286
running SYVM-286

SQLDBLD EXEC SYVM-472

SQLDBLD EXEC
syntax SYVM-472

SQLDBN file
content DBA-250
contents SYVM-291, SYVM-300
purpose SYVM-300
renaming a database SYVM-49
renaming a resource identifier
SYVM-50

SQLDBN file (*continued*)
use of SYVM-176

SQLDBN files
definition of DBA-250
updating DCSSID DBA-250
used by SQLINIT DBA-251

SQLDBSU EXEC
description DBSU-109
invocation task DBSU-15
multiple user mode DBSU-129
single user mode DBSU-130
syntax diagram DBSU-129

SQLDS communication protocol
SQLREF-25

SQLDS protocol DBA-13, PERF-109,
SYVM-57

SQLDSECT, acquiring APP-308

SQLDSIZ variable APP-308

SQLEND
ARCHIVE SYVM-201, SYVM-152
DVERIFY SYVM-91, SYVM-78
LARCHIVE SYVM-206, SYVM-155
QUICK SYVM-91, SYVM-78
recovery considerations SYVM-81
UARCHIVE SYVM-205, SYVM-153

SQLEND ARCHIVE DBA-135

SQLEND operator command SYVM-91,
SYVM-78

SQLEND operator command
ARCHIVE OPER-12
description OPER-11
DVERIFY OPER-13
LARCHIVE OPER-12
QUICK OPER-13
syntax OPER-11
TRCPURGE OPER-13
UARCHIVE OPER-12, OPER-48

SQLER fields of SQLCA SQLREF-354,
SQLREF-355

SQLERL field of SQLCA SQLREF-354

SQLERM field of SQLCA SQLREF-354

SQLERR(n) fields of SQLCA
SQLREF-354, SQLREF-355

SQLERRD(3)
CLOSE statement SQLREF-176
DELETE statement SQLREF-246
INSERT statement SQLREF-302
UPDATE statement SQLREF-342

SQLERRD(n) fields of SQLCA
SQLREF-354, SQLREF-355

SQLERRD2
-30 SYVM-67, SYVM-61

SQLERRM
description APP-198

SQLERRMC field of SQLCA SQLREF-354

SQLERRML field of SQLCA SQLREF-354

SQLERROR clause
of WHENEVER statement
SQLREF-347

SQLERRP field of SQLCA SQLREF-354

SQLFDEF file SYVM-300

SQLFDEF file
creating SYVM-290
renaming a database SYVM-49
renaming a resource identifier
SYVM-50

SQLFDEF file (*continued*)
updated by SQLADBEX SYVM-163

SQLFLAG preprocessor parameter
APP-167

SQLGENLD EXEC PERF-183, SYVM-174,
SYVM-189, SYVM-477

SQLGLOB
program to query, update, insert or
delete SYVM-253

SQLGLOB EXEC DBA-252

SQLGLOB EXEC
setting DBCS option SYVM-328
setting default CHARNAME
SYVM-326

SQLGLOB Parameters (VSE Only)
DBA-273

SQLGLOB VSAM file
setting default CHARNAME
SYVM-252
setting default DBCS SYVM-255

SQLHX APP-16, DBA-100, DIAG-228

SQLHX
canceling the Database Services Utility
DBSU-25
synchronous communication
PERF-112

SQLIND field of SQLDA SQLREF-249,
SQLREF-361

SQLINIT
PROTOCOL parameter PERF-108
QRYBLKSIZE PERF-110
SYNCHRONOUS PERF-112

SQLINIT EXEC APP-113, DBA-197,
DBA-200, ISQL-5

SQLINIT EXEC
CONNECT statement SQLREF-187
default application server DBA-97
default database DBA-195
description DBA-243
issuing for a user SYVM-284
optional CMS work unit APP-287
parameters DBA-244
reasons to reissue DBA-249, DBA-251
resource adapter bootstrap module
DBA-251
setting DBCS option SYVM-329
setting default CHARNAME
SYVM-326
syntax DBA-243

SQLLEN field of SQLDA SQLREF-249,
SQLREF-361

SQLLOG EXEC SYVM-220, SYVM-232

SQLMACH machine
DASD requirement PERF-174
modes of operation PERF-171
overview PERF-171
virtual storage PERF-172

SQLN
field in SQLDA APP-234
setting APP-232

SQLN field of SQLDA SQLREF-248,
SQLREF-360

SQLNAME field of SQLDA SQLREF-249,
SQLREF-362

SQLOPTION column SQLREF-369

SQLOPTION column
of SYSOPTIONS SQLREF-393

SQLPREP EXEC APP-114
 SQLPREP EXEC
 format APP-114
 parameters APP-114
 SQLQRY ISQL-15
 SQLQRY
 querying the current status DBSU-25
 remote unit of work APP-303
 synchronous communication
 PERF-112
 SQLQRY command
 querying the status of an application
 DBA-267
 SQLQuote preprocessor parameter
 APP-126
 SQLRELEP EXEC DBA-259
 SQLRMEND DBA-126
 SQLRMEND EXEC APP-16, DBA-261,
 DBA-262
 SQLSTART PERF-19
 SQLSTART EXEC APP-146, SYVM-78,
 SYVM-149
 SQLSTART EXEC
 accessing SQLDBN file DBA-250
 description DBA-250
 example APP-147
 parameter options OPER-195
 restoring the database example
 SYVM-216
 syntax diagram OPER-2
 SQLSTATE
 '02000' SQLREF-284, SQLREF-300,
 SQLREF-337, SQLREF-347
 40001 PERF-102
 42704 PERF-143
 57028 PERF-100
 57029 PERF-100
 description SQLREF-143
 SQLSTATE field of SQLCA SQLREF-357
 SQLSTT field of SQLCA SQLREF-357
 SQLTRFMT EXEC control statements
 OPER-166
 SQLTXL field of SQLCA SQLREF-354
 SQLTXT field of SQLCA SQLREF-354
 SQLTYPE field of SQLDA SQLREF-249,
 SQLREF-360
 SQLVAR array of SQLDA SQLREF-360
 SQLVAR field of SQLDA SQLREF-248
 SQLWARN
 description APP-198
 SQLWARN fields of SQLCA
 SQLREF-355, SQLREF-357
 SQLWARN0
 WHENEVER statement SQLREF-347
 SQLWARN3
 FETCH statement SQLREF-285
 SELECT INTO statement SQLREF-337
 SQLWARN6
 automatic rollback APP-258
 DELETE statement SQLREF-246
 INSERT statement SQLREF-302
 UPDATE statement SQLREF-343
 SQLWARNING clause
 of WHENEVER statement
 SQLREF-347
 SQLWRN fields of SQLCA SQLREF-355,
 SQLREF-357

SSSNAME parameter of exec DBA-248,
 DBA-257
 STACK parameter of exec DBA-248,
 DBA-257
 stack storage DIAG-42
 stacking SQL and ISQL commands
 ISQL-93
 STAE exit, considerations for SYVM-87
 START command
 correcting errors ISQL-35
 description ISQL-31
 isolation level setting ISQL-88
 no parameter ISQL-62
 parameter ISQL-37
 PF key ISQL-157
 reference ISQL-135
 START PROC command OPER-137
 START PSERVER command OPER-138
 START TCPP command OPER-140
 start up
 mode PERF-93
 options file PERF-21
 starter database APP-152, DBSU-106
 starter database
 control statements SYVM-292
 size allocations SYVM-10
 STARTER parameter SYVM-289
 starting
 accounting facility SYVM-250
 current SQL statement ISQL-31,
 ISQL-135
 Database Services Utility DBSU-7
 DATALOAD after an error DBSU-46
 ISQL ISQL-3, ISQL-4, ISQL-5, ISQL-8
 online support SYVM-100, SYVM-83
 stored queries and isolation level
 setting ISQL-88
 stored SQL statement ISQL-62,
 ISQL-135
 starting application server
 after restoring the database
 SYVM-217, SYVM-159
 FRENCH character set example
 SYVM-316, SYVM-242
 restoring SYVM-216
 restoring a database SYVM-159
 STARTUP=R SYVM-216, SYVM-159
 starting the application server SYVM-53,
 SYVM-89, SYVM-47
 starting the application server
 multiple user mode SYVM-78
 single user mode OPER-8, SYVM-80
 starting the database manager
 after a user archive OPER-188
 error messages OPER-4
 initialization parameters OPER-179
 multiple user mode OPER-1, OPER-8
 online support OPER-18
 single user mode OPER-8, OPER-9
 starting the Database Services Utility with
 single user mode DBSU-106
 starting the DB2 Server for VM machine
 multiple user mode OPER-8
 single user mode OPER-8
 STARTUP initialization parameter
 OPER-188

STARTUP initialization parameter
 restart procedures SYVM-214,
 SYVM-157
 restoring SYVM-159
 restoring a database SYVM-216
 STARTUP=C initialization of database
 manager SYVM-219
 STAT trace OPER-163, OPER-191
 statement
 ACQUIRE DBSPACE DBA-26
 ALTER DBSPACE DBA-74
 ALTER TABLE DBA-64, DBA-189
 binding SQLREF-9
 COMMIT WORK DBA-121
 CONNECT DBA-89, DBA-99,
 DBA-171, DBA-197
 CREATE INDEX DBA-47
 CREATE TABLE DBA-28, DBA-90,
 DBA-176
 DBS job control DBA-150
 DROP DBSPACE DBA-77
 DROP TABLE DBA-57, DBA-72,
 DBA-189
 executable SQLREF-140
 EXPLAIN DBA-163
 explainable SQLREF-275
 extended dynamic DBA-156
 GRANT DBA-92, DBA-95
 GRANT SCHEDULE DBA-91
 INCLUDE DBA-165
 INSERT with subselect DBA-172,
 DBA-189
 invocation SQLREF-140
 maximum length SQLREF-350
 nonexecutable SQLREF-140,
 SQLREF-141
 preparation SQLREF-9
 REVOKE DBA-85, DBA-94, DBA-96
 ROLLBACK DBA-191
 ROLLBACK WORK DBA-121,
 DBA-131, DBA-172, DBA-175
 SHOW DBSPACE DBA-27
 WHENEVER DBA-131
 statement generator DIAG-38
 statement generator
 description DIAG-38
 tracing OPER-164, OPER-192
 statement_name
 description SQLREF-40
 in DECLARE CURSOR statement
 SQLREF-236, SQLREF-239
 in DESCRIBE statement SQLREF-248
 in EXECUTE statement SQLREF-265
 in PREPARE statement SQLREF-314
 length limitation SQLREF-349
 statement_variable
 in Extended EXECUTE statement
 SQLREF-269
 statements
 ACQUIRE DBSPACE SQLREF-145,
 SQLREF-146
 ALLOCATE CURSOR SQLREF-147,
 SQLREF-148
 ALTER DBSPACE SQLREF-149,
 SQLREF-150, SQLREF-151
 ALTER PROCEDURE SQLREF-155

statements (continued)

ALTER PSERVER SQLREF-156,
SQLREF-157
ALTER TABLE APP-261,
SQLREF-158, SQLREF-166
ASSOCIATE LOCATORS
SQLREF-167, SQLREF-169
BEGIN DECLARE SECTION APP-8,
SQLREF-170, SQLREF-171
CALL SQLREF-172, SQLREF-175
CLOSE APP-37, SQLREF-176,
SQLREF-177
CLOSE, Extended SQLREF-178
COMMENT ON APP-262,
SQLREF-179, SQLREF-180
COMMENT ON PROCEDURE
SQLREF-181
COMMIT APP-19, SQLREF-183,
SQLREF-185
CONNECT APP-12
CONNECT (for VM) SQLREF-186,
SQLREF-191
CONNECT (for VSE) SQLREF-197
CREATE INDEX APP-261,
SQLREF-199, SQLREF-201
CREATE PACKAGE SQLREF-202,
SQLREF-208
CREATE PROCEDURE SQLREF-209,
SQLREF-216
CREATE PSERVER SQLREF-217,
SQLREF-218
CREATE SYNONYM APP-262,
SQLREF-219
CREATE TABLE APP-261,
SQLREF-220, SQLREF-231
CREATE VIEW APP-62, SQLREF-232,
SQLREF-235
DECLARE APP-33
DECLARE CURSOR SQLREF-236,
SQLREF-240
DECLARE CURSOR, Extended
SQLREF-241, SQLREF-242
DELETE SQLREF-243, SQLREF-247
DESCRIBE SQLREF-248, SQLREF-251
DESCRIBE CURSOR SQLREF-253,
SQLREF-254
DESCRIBE PROCEDURE
SQLREF-255, SQLREF-257
DESCRIBE, extended SQLREF-252
DESCRIBE, Extended SQLREF-252
description SQLREF-166,
SQLREF-177, SQLREF-208,
SQLREF-251, SQLREF-252,
SQLREF-260, SQLREF-270,
SQLREF-273, SQLREF-283,
SQLREF-287, SQLREF-288,
SQLREF-298, SQLREF-303,
SQLREF-305, SQLREF-313,
SQLREF-317, SQLREF-327,
SQLREF-344
DROP SQLREF-258, SQLREF-260
DROP DBSPACE APP-259
DROP PROCEDURE SQLREF-261
DROP PSERVER SQLREF-262
DROP STATEMENT SQLREF-263
DROP SYNONYM APP-262
DROP TABLE APP-261

statements (continued)

DROP VIEW APP-65
END DECLARE SECTION APP-8,
SQLREF-264
EXECUTE SQLREF-265, SQLREF-268
EXECUTE IMMEDIATE SQLREF-271,
SQLREF-273
EXECUTE, Extended SQLREF-269,
SQLREF-270
EXPLAIN SQLREF-274, SQLREF-283
FETCH APP-35, SQLREF-284,
SQLREF-287
FETCH, Extended SQLREF-288
GRANT (Package Privileges)
SQLREF-289, SQLREF-290
GRANT (System Authorities)
SQLREF-291, SQLREF-293
GRANT (Table Privileges)
SQLREF-294, SQLREF-296
INCLUDE APP-141, APP-177,
SQLREF-297, SQLREF-298
INCLUDE SQLCA APP-11, APP-196,
SQLREF-357, SQLREF-358,
SQLREF-359
INCLUDE SQLDA APP-219,
SQLREF-364, SQLREF-365
INSERT SQLREF-299, SQLREF-303
inserting into a program SQLREF-297
LABEL APP-262
LABEL ON SQLREF-304,
SQLREF-305
LOCK APP-258
LOCK DBSPACE SQLREF-306
LOCK TABLE SQLREF-307
naming convention APP-25
obtaining costs PERF-151
OPEN APP-34, SQLREF-308,
SQLREF-312
OPEN, Extended SQLREF-313
PREPARE APP-235, SQLREF-314,
SQLREF-317
PREPARE, Extended SQLREF-318,
SQLREF-322
PUT APP-36, SQLREF-323,
SQLREF-325
PUT, Extended SQLREF-326,
SQLREF-327
REVOKE APP-270
REVOKE (Package Privileges)
SQLREF-328, SQLREF-329
REVOKE (System Authorities)
SQLREF-329, SQLREF-330
REVOKE (Table Privileges)
SQLREF-331, SQLREF-334
ROLLBACK APP-19, SQLREF-335,
SQLREF-336
SELECT
basic use APP-26
correlation APP-80
grouping APP-71
joins APP-66
subqueries APP-76
testing for existence APP-88
unions APP-89
SELECT INTO SQLREF-337,
SQLREF-338
UPDATE SQLREF-339, SQLREF-344

statements (continued)

UPDATE STATISTICS APP-262,
SQLREF-345, SQLREF-346
WHENEVER APP-199, SQLREF-347,
SQLREF-348
static assign, archive OPER-47
static select
DECLARE CURSOR statement
SQLREF-142
FETCH statement SQLREF-142
OPEN statement SQLREF-142
static SQL SQLREF-9
static SQL
description APP-25
invocation SQLREF-141
statement SQLREF-9
statistics ISQL-86
statistics
automatic collection PERF-113
catalog table PERF-38
CICS PERF-8
DBSS update statistics tracing
OPER-163
generating DBSU-48
inaccurate values DIAG-187
influencing data access PERF-139
maintenance PERF-137
misleading values DIAG-151
monitoring PERF-5
possible accuracy problems DIAG-187
suppressing DBSU-221
tables APP-262
tracing OPER-191
update all PERF-138
updating DIAG-189
updating on a DBSPACE DIAG-339
STATISTICS keyword
in UPDATE STATISTICS statement
SQLREF-345
statistics update tasks
receiving reload notification DBSU-80
status
area ISQL-10, ISQL-11
STATUS column SQLREF-369
STATUS column
of SYSKEYS SQLREF-392
status shared segment, name DBA-248,
DBA-257
STDOPT JCC/JCS SYVM-121, SYVM-105
stealing, page PERF-86
STG (Storage) OPER-160
STMT column SQLREF-369
STNAME column SQLREF-369
STNAME column
of SYSTABAUTH SQLREF-403
STOP clause
of WHENEVER statement
SQLREF-347, SQLREF-348
STOP PROC command OPER-141
STOP PSERVER command OPER-143
STOP SYSTEM response SYVM-217,
SYVM-160
stopping
application server
archives OPER-14
description OPER-11, OPER-29
online support OPER-29

- stopping (*continued*)
 - ISQL ISQL-17, ISQL-108
 - logical units of work ISQL-14
 - running command ISQL-14
- stopping the application server
 - online support SYVM-94, SYVM-128, SYVM-80, SYVM-112
 - recovery considerations SYVM-92, SYVM-78
- STOR trace OPER-163, OPER-191
- storage
 - 16MB line PERF-27
 - 31-bit addressing PERF-27
 - address space size PERF-47
 - allocation above 16MB PERF-27
 - as a resource PERF-10
 - auxiliary PERF-43
 - available dbextent storage PERF-26
 - available storage pool space PERF-25
 - capacity IBM DASD SYVM-427, SYVM-341
 - concepts SYVM-143, SYVM-123
 - DASD PERF-58
 - DASD I/O system PERF-85
 - database manager PERF-85
 - devices SYVM-15, SYVM-15
 - estimating SYVM-427, SYVM-341
 - main and expanded PERF-166
 - operator SHOW commands PERF-25
 - package cache PERF-88
 - page PERF-43
 - paging system PERF-45
 - processor requirements SYVM-425
 - proportion of available pages PERF-25
 - queue PERF-27, PERF-46
 - real and virtual PERF-43
 - requirements
 - DB2 Server for VM production minidisk SYVM-6
 - DB2 Server for VM service minidisk SYVM-6
 - resetting OPER-62
 - saved segments PERF-47
 - short on storage PERF-59
 - short on storage level OPER-187
 - temporary CICS PERF-81
 - virtual OPER-1, PERF-27
 - virtual disk PERF-48, PERF-54
 - virtual machine PERF-43
 - virtual partition PERF-43
- Storage (STG) OPER-160, OPER-163
- storage component DIAG-47
- storage component
 - buffer pool management DIAG-50
 - DBSPACE recovery DIAG-49
 - directory, logs, DBEXTENTS, and I/O DIAG-47
 - how it works DIAG-47
 - mapping DBSPACES to DASD DIAG-47
 - storage pools DIAG-49
- storage concept DBA-17
- storage dump analysis
 - DEBUG DBSU-226
 - guidelines DBSU-226
- storage layout after initialization
 - DIAG-286, DIAG-291
- storage management
 - logical DIAG-43
 - tracing OPER-163, OPER-191
- storage management concepts DIAG-41
- storage of ISQL routine DBA-167
- storage pool SYVM-223
- storage pool
 - adding dbextents SYVM-157, SYVM-133
 - allocating page from PERF-59
 - assign DASD PERF-76
 - assigning dbextent PERF-59
 - available space PERF-25
 - catalog placement PERF-77
 - concepts SYVM-143, SYVM-123
 - controlling
 - channel utilization SYVM-156, SYVM-132
 - device utilization SYVM-156, SYVM-132
 - controlling data location SYVM-156, SYVM-132
 - Data Spaces Support PERF-189
 - dbspace PERF-40
 - definition APP-254, SYVM-295
 - deleting dbextents SYVM-160, SYVM-135
 - description DBA-18, OPER-118, PERF-59
 - design considerations SYVM-155, SYVM-131
 - directory and log placement PERF-78
 - estimating size SYVM-156, SYVM-132
 - existing pool and virtual disk PERF-51
 - free allocated pages PERF-65
 - full PERF-65
 - in DBSS DIAG-49
 - internal dbspace placement PERF-77
 - maintaining SYVM-157, SYVM-133
 - management SYVM-155, SYVM-131
 - managing space PERF-59
 - monitoring SYVM-157, SYVM-132
 - nonrecoverable APP-254, DBA-23, DBSU-227, OPER-84, OPER-121, SQLREF-342, SYVM-240, SYVM-177
 - nonrecoverable
 - checkpoint PERF-103
 - performance PERF-199
 - putting internal DBSPACES in DIAG-166
 - reassign dbspace PERF-76
 - reclaiming empty pages DIAG-48
 - recoverable APP-254, DBA-23, SQLREF-342
 - referential integrity DBA-18, DBA-23
 - relation to CHKINTVL DIAG-162
 - reorganizing a dbspace to free pages DBA-74
 - requirements SYVM-432, SYVM-344
 - shadow pages in DIAG-161
 - SHOW POOL example OPER-118, OPER-119
 - showing OPER-118
 - space SYVM-69, SYVM-63
 - specification
 - checking PERF-191
- storage pool (*continued*)
 - specification (*continued*)
 - dynamically changing PERF-191
 - specification file
 - changing PERF-188
 - example PERF-208
 - format PERF-207
 - identifying PERF-189
 - writing PERF-208
 - specifying initial SYVM-295, SYVM-222
 - specifying the placement of dbspaces APP-257
 - support
 - application dbspaces SYVM-22, SYVM-22
 - internal dbspaces SYVM-22, SYVM-22
 - system dbspaces SYVM-22, SYVM-21
 - virtual disk PERF-51, PERF-56
- storage pool
 - planning structure PERF-169
 - understanding PERF-163
- storage pools
 - definition SYVM-296
- storage related performance problem
 - index DIAG-144
- storage required for the starter database SYVM-10
- storage requirements
 - processor SYVM-339
- storage requirements (virtual and real) SYVM-425
- storage services DIAG-42
- storage services
 - stack storage DIAG-42
 - working storage DIAG-42
- storage space calculations SYVM-427, SYVM-341
- storage, short on storage level OPER-187
- storage, SHOW STORAGE command OPER-130
- STORE command ISQL-61, ISQL-136
- stored procedure
 - altering DBA-218
 - ARISPRC DBA-210
 - concepts DBA-209
 - dropping DBA-218
 - executing PERF-31
 - handler DBA-210
 - JDBC/CLI clients DBA-218, DBA-281
 - managing servers DBA-213
 - parameters affecting execution DBA-218
 - preparing to run DBA-217
 - server DBA-209
 - server groups DBA-210
 - setting up a server DBA-210
- stored procedure handler (SPH)
 - description DIAG-8
- stored procedures
 - assembler APP-324
 - authorizing APP-97
 - benefits APP-93
 - C APP-348
 - calling APP-96

stored procedures (*continued*)
 characteristics APP-263
 client application programs APP-102
 COBOL APP-367
 coding examples APP-101
 datatype compatibility APP-99
 example of a definition APP-263
 execution of SQL statements APP-95
 GENERAL linkage convention APP-99
 GENERAL WITH NULLS linkage convention APP-100
 Language Environment considerations APP-96
 parameters APP-98
 passing parameters APP-99
 PL/I APP-392
 preparing APP-96
 result sets APP-101
 specifying AUTHIDs APP-97
 using APP-92, APP-263
 using the DECLARE CURSOR statement SQLREF-240
 writing APP-94

stored procedures program PERF-4

stored query
 deleting DBA-87
 description DBA-151
 testing SQL statements DBA-163
 testing SQL statements using ISQL DBA-173

stored results DIAG-148

stored results
 to avoid I/O's DIAG-233

stored SQL statements
 changing ISQL-64
 effect of table changes ISQL-82
 erasing ISQL-65, ISQL-107
 estimating dbspace size SYVM-443, SYVM-354
 isolation level setting ISQL-88
 listing ISQL-65, ISQL-120
 protecting ISQL-61
 recalling ISQL-63, ISQL-124
 renaming ISQL-65, ISQL-125
 routine ISQL-71
 starting ISQL-62, ISQL-135

storing
 current SQL statement ISQL-61, ISQL-136
 display format information ISQL-61, ISQL-136
 isolation level setting ISQL-88
 joins of tables PERF-155
 logical table as two tables PERF-155
 routine ISQL-69

storing information in dbspaces DBA-19

STORPOOL DBA-73

STORPOOL
See storage pool

STORPOOL clause
 description SQLREF-146
 of ACQUIRE DBSPACE statement SQLREF-146

STORPOOL parameter of ACQUIRE DBSPACE APP-257

str SQLREF-7

strategy-of-reload tasks
 nonrecoverable storage-pool effects DBSU-79

string
 assignment
 conversion rules SQLREF-56
 trailing blanks SQLREF-55

column
 CCSID SQLREF-32
 comparison SQLREF-58

constant
 CCSID SQLREF-32
 character SQLREF-60
 graphic SQLREF-61
 hexadecimal SQLREF-60

definition SQLREF-29

empty SQLREF-44

expression SQLREF-72

operand SQLREF-72

padding SQLREF-55

truncation SQLREF-56

variable
 fixed-length SQLREF-44
 varying-length SQLREF-44

string data types DBA-32

string_constant
 in LIKE predicate SQLREF-86

STRIP
 function SQLREF-108

striping
 choosing PERF-204
 dbextent size PERF-204
 existing data PERF-205
 number of dbextents PERF-205
 one dbextent PERF-204
 performance PERF-198
 physical device PERF-204
 turning on an off PERF-190
 understanding PERF-167

structure DIAG-20

structure
 pseudo-agent DIAG-20
 real agent DIAG-20

STRUCTURE clause
 of EXPLAIN statement SQLREF-275

structure explain table PERF-149

STRUCTURE_TABLE
 EXPLAIN statement SQLREF-282

structure, basic index DIAG-50

Structured Query Language (SQL)
See also SQL
 configuration DBA-193
 dynamic statement support DBA-156

structures
 based APP-218

STXIT exit SYVM-74

STXIT macroinstructions DBA-127

SUBBYTE column SQLREF-369

SUBBYTE column
 of SYSSTRINGS SQLREF-401

subcommands
 DFI (Data Field Identification) DBSU-170
 ENDDATA DBSU-164
 INFILE DBSU-159
 OUTFILE DBSU-177

subcommands (*continued*)
 TCI (Table Column Identification) DBSU-148

subfield
 of a structure SQLREF-70

subqueries
 possible I/O problems DIAG-224
 possible problems DIAG-232

subquery
 ALL keyword APP-78
 ANY keyword APP-78
 correlation APP-80
 CREATE VIEW command ISQL-83
 description SQLREF-67
 HAVING clause SQLREF-126
 in a basic predicate
 ISO-ANS SQL(89) equivalent term SQLREF-424
 in DELETE statement SQLREF-243
 IN predicate APP-79
 in UPDATE statement SQLREF-339
 INSERT command ISQL-78
 introduction APP-76
 involving unions (restriction) APP-91
 many values returned APP-78
 NOT IN predicate APP-79
 single value returned APP-78
 subselect SQLREF-121
 WHERE clause SQLREF-135

subquery structures, determining PERF-150

SUBS (subsystem)
 definition OPER-66

subselect SQLREF-340

subselect
 description APP-26, SQLREF-67, SQLREF-121, SQLREF-128
 FROM clause SQLREF-121
 GROUP BY clause SQLREF-121
 HAVING clause SQLREF-121
 in a basic predicate SQLREF-79
 in a quantified predicate SQLREF-80
 in CREATE VIEW statement SQLREF-233
 in EXISTS predicate SQLREF-83
 in fullselect SQLREF-128
 in INSERT statement SQLREF-299, SQLREF-300
 in parentheses
 ISO-ANS SQL(89) equivalent term SQLREF-424
 ISO-ANS SQL(89) equivalent term SQLREF-424
 quantified predicate SQLREF-80
 SELECT clause SQLREF-121
 WHERE clause SQLREF-121

subset mode of CMS DBA-152

substitution character SQLREF-30

SUBSTR
 function SQLREF-110
 substring SQLREF-110

subsystem
 calls to DBSS OPER-58
 DBSS update statistics tracing OPER-163
 tracing CONV (CCSID and Data Conversion) OPER-163

- subsystem (*continued*)
 - tracing DBSS (Database Storage Subsystem) OPER-163
- subsystemid
 - in GRANT statement SQLREF-291, SQLREF-292
 - in REVOKE statement SQLREF-329, SQLREF-330
- subtotal
 - creating ISQL-49
 - report ISQL-48
 - specifying when to subtotal ISQL-111
 - specifying which columns to subtotal ISQL-111
- SUBTOTAL keyword (FORMAT command)
 - multiple keyword ISQL-52
 - reference ISQL-111
 - report total ISQL-48, ISQL-50
- subtraction in SQL expressions APP-52
- subtype
 - application server uses SYVM-24, SYVM-31
 - BIT DBA-34
 - character APP-46, DBA-34
 - character
 - Using APP-57
 - SQLDA SQLREF-361
- SUBTYPE column SQLREF-369
- SUBTYPE column
 - in CREATE TABLE SQLREF-224
 - of SYSCCSIDS SQLREF-378
 - of SYSCOLUMNS SQLREF-383
- success code
 - See* SQLCODE
- SUM function SQLREF-95
- summary
 - Database Services Utility processing DBSU-144
 - of archives OPER-14
 - program framework APP-20
- super exclusive lock
 - description DIAG-70, PERF-94
- supervisor mode
 - ESA PERF-47
 - VMESA PERF-47
- support, online
 - CIRB transaction options OPER-18
 - definition OPER-1
 - resource adapter OPER-18, OPER-19
 - starting OPER-18
 - VSE guests OPER-17
- supporting your users
 - authorizing access DBA-84
 - loading initial table DBA-85
 - new user support DBA-81
 - removing a user DBA-85
 - specifying a default application server DBA-84
 - training DBA-85
- suppressed blocking PERF-111
- suppressing
 - automatic statistics collection PERF-113
 - statistics DBSU-221
 - SYSPCH and SYSLST output APP-155
- suppressing the preprocessor parameter display APP-160
- switching
 - log data between logs SYVM-235
 - log modes SYVM-227, SYVM-167
 - switching accounting files OPER-45
 - switching between application servers DBA-99
- symptom strings DIAG-279
- sync point manager (SPM) OPER-189
- sync point manager (SPM)
 - disabling OPER-189
- synchronization point
 - request in CICS DBA-127
- synchronous
 - SQLINIT parameter DIAG-228
 - SYNC(YES) DIAG-228
- SYNCHRONOUS
 - communication PERF-112
- SYNCHRONOUS parameter of exec DBA-245, DBA-254
- SYNCPNT initialization parameter OPER-189, SYVM-60, SYVM-53
- SYNCPNT parameter
 - multiple-site read multiple-site update SYVM-400
 - multiple-site read single-site update SYVM-400
- SYNCPPOINT
 - See also* synchronization point
 - requests in the CICS subsystem DBA-172
- syncpoints APP-17
- syncpoints
 - See* logical units of work
- synonym
 - creating APP-262, ISQL-84
 - defining SQLREF-219
 - description SQLREF-40
 - dropping ISQL-85, SQLREF-259
 - in DROP statement SQLREF-258, SQLREF-259
 - naming convention APP-25
 - qualifying a column name SQLREF-64
 - routine ISQL-71
 - used in application development DBA-173
- SYNONYM clause
 - of DROP statement SQLREF-258, SQLREF-259
- syntax diagram
 - COMMENT DBSU-138
 - DATALOAD DBSU-145
 - DATAUNLOAD DBSU-168
 - notation conventions APP-ix, DBA-xiii, DBSU-xiii, DIAG-x, ISQL-xi, OPER-viii, PERF-viii, SQLREF-2, SYVM-xi, SYVM-xi
 - REBIND PACKAGE DBSU-213
 - RELOAD DBSPACE DBSU-191
 - RELOAD PACKAGE DBSU-208
 - RELOAD TABLE DBSU-196
 - REORGANIZE INDEX DBSU-138
 - SCHEMA DBSU-140
 - schema file DBSU-142
 - SET AUTOCOMMIT DBSU-214
 - SET ERRORMODE DBSU-215
- syntax diagram (*continued*)
 - SET FORMAT DBSU-217
 - SET ISOLATION DBSU-218
 - SET LINECOUNT DBSU-219
 - SET LINEWIDTH DBSU-219
 - SET UPDATE STATISTICS DBSU-220
 - SQLDBSU EXEC
 - multiple user mode DBSU-129
 - single user mode DBSU-130
 - UNLOAD DBSPACE DBSU-201
 - UNLOAD PACKAGE DBSU-211
- syntax diagram, SQLSTART EXEC OPER-2
- SYS0001 dbspace SYVM-19, SYVM-19, SYVM-224
- SYS0001 dbspace
 - storage estimating SYVM-434, SYVM-345
 - storage estimating
 - derivation of the formula SYVM-437, SYVM-349
 - examples SYVM-438, SYVM-350
 - modifying the formula SYVM-440, SYVM-351
- SYS0001, reorganizing indexes within DBA-78
- SYS0002 dbspace SYVM-19, SYVM-19, SYVM-224
- SYS0002 dbspace
 - allocation SYVM-153, SYVM-129
- SYS000n dbspace DBA-133, DBA-135, SYVM-154, SYVM-130
- SYSACCESS
 - exclusive locking on DIAG-179
- SYSACCESS catalog table SQLREF-373, SQLREF-375
- SYSCATALOG
 - exclusive locking on DIAG-179
- SYSCATALOG catalog table SQLREF-375, SQLREF-378
- SYSCCSIDS catalog table SQLREF-378, SYVM-308, SYVM-234
- SYSCHARSETS catalog table SQLREF-378, SQLREF-379, SYVM-308, SYVM-234
- SYSCOLAUTH
 - exclusive locking on DIAG-180
- SYSCOLAUTH catalog table SQLREF-379, SQLREF-380
- SYSCOLSTATS catalog table SQLREF-380, SQLREF-381
- SYSCOLUMNS
 - exclusive locking on DIAG-180
- SYSCOLUMNS catalog table SQLREF-381, SQLREF-384
- SYSDBSPACES
 - exclusive locking on DIAG-179
- SYSDBSPACES catalog table SQLREF-384, SQLREF-385
- SYSDBSPACES catalog table
 - of SYSDBSPACES SQLREF-385
- SYSDEF PERF-49
- SYSDROP catalog table SQLREF-385, SQLREF-386
- SYSFIELDS catalog table SQLREF-386, SQLREF-387

SYSFPARMS catalog table SQLREF-387, SQLREF-388
 sysIN preprocessor parameter APP-128
 SYSIN preprocessor parameter APP-167
 SYSIN, valid assignments for SYVM-77
 SYSINDEXES
 exclusive locking on DIAG-180
 SYSINDEXES catalog table SQLREF-388, SQLREF-390
 SYSKEYCOLS catalog table SQLREF-390, SQLREF-391
 SYSKEYS catalog table SQLREF-391, SQLREF-392
 SYSLANGUAGE catalog table SQLREF-392, SQLREF-393
 SYSLANGUAGE catalog table
 example SYVM-334, SYVM-260
 SYSLANGUAGE table DBA-139
 SYSLLENGTH column SQLREF-369
 SYSLLENGTH column
 of SYSCOLUMNS SQLREF-382
 of SYSKEYCOLS SQLREF-390
 SYSST, suppressing preprocessor output APP-155
 SYSMODE initialization parameter OPER-189, SYVM-56, SYVM-50
 SYSNAME values for NAMESYS
 example SYVM-179
 SYSOPTIONS catalog table SQLREF-393, SQLREF-395
 SYSOPTIONS catalog table
 updating SYVM-362, SYVM-284
 SYSPARMS catalog table SQLREF-395
 SYSPCH, suppressing preprocessor output APP-155
 sysPPrint preprocessor parameter APP-128
 SYSPRINT, valid assignments for SYVM-77
 SYSPROGAUTH
 exclusive locking on DIAG-179
 SYSPROGAUTH catalog table SQLREF-396, SQLREF-397
 SYSPSERVERS catalog table SQLREF-397
 sysPUnc preprocessor parameter APP-129
 SYSPUNCH, valid assignments for SYVM-77
 SYSROUTINES catalog table SQLREF-398
 SYSSTRINGS catalog table SQLREF-400, SQLREF-402, SYVM-308, SYVM-234
 SYSSYNONYMS catalog table SQLREF-402
 SYSTABAUTH
 exclusive locking on DIAG-180
 SYSTABAUTH catalog table SQLREF-403, SQLREF-404
 system
 code
 description SYVM-174
 console, signing off OPER-11
 dbspace considerations for query users DBA-167
 dbspaces
 size SYVM-20, SYVM-20
 failure SYVM-214, SYVM-157
 maximums SYVM-445, SYVM-357

system (continued)
 minidisk SYVM-5
 minidisk
 DASD storage requirements SYVM-6
 minidisks SYVM-5
 SHOW SYSTEM command OPER-133
 signing off console SYVM-91, SYVM-141
 software requirements SYVM-3
 virtual storage requirements SYVM-4, SYVM-8
 SYSTEM
 (in PRINT command) ISQL-60
 (in SET command) ISQL-60
 keyword ISQL-122
 owner of catalog tables SQLREF-369
 system initialization table APP-18
 system mode, specifying OPER-189
 system operator console, issuing operator commands OPER-43
 system paging DASD
 auxiliary storage PERF-43
 buffer pool PERF-85
 hidden cost PERF-45
 increasing virtual storage PERF-47
 load measurement PERF-14, PERF-17
 monitoring load PERF-47
 NCUSERS PERF-89
 saved segments PERF-47
 virtual disk PERF-48, PERF-54
 SYSTEM tables
 SYSCATALOG DBA-56
 SYSCOLAUTH DBA-55
 SYSCOLUMNS DBA-54, DBA-56
 SYSINDEXES DBA-54
 SYSPROGAUTH DBA-55
 SYSUSERAUTH DBA-55
 SYSVIEWS DBA-55
 system-determined format, DATAUNLOAD DBSU-52
 system-related error
 codes DIAG-119
 SQL statements DIAG-296
 system-related error codes
 See functional problems, diagnosis
 SYSTEM.SYSCATALOG
 average row length PERF-38, PERF-62
 catalog table PERF-38
 clustering PERF-67
 number of page used by a table PERF-39
 overflow rows PERF-38, PERF-62
 total number of rows PERF-38
 SYSTEM.SYSCOLUMNS
 catalog table PERF-39
 CCSID PERF-39
 column length PERF-39
 column type PERF-39
 null PERF-39
 SYSTEM.SYSDBSPACES
 active pages PERF-40
 available pages PERF-40
 catalog table PERF-39
 ever increasing index PERF-66

SYSTEM.SYSDBSPACES (continued)
 free space in a data page PERF-40, PERF-62
 lockmode PERF-40, PERF-96
 percentage of reserved index pages PERF-40, PERF-61
 storage pool number PERF-40
 SYSTEM.SYSINDEXES
 catalog table PERF-40
 changing clustering index PERF-67
 cluster ratio PERF-41, PERF-68
 cluster value PERF-68
 clustered PERF-41
 clustering PERF-41
 free index space PERF-41, PERF-63
 lockmode PERF-41
 page jumps PERF-68
 release level PERF-42
 row count PERF-68
 Systems Application Architecture (SAA)
 conformance checking APP-133, APP-167, APP-168, APP-252
 Systems Network Architecture (SNA)
 AVS session limit considerations SYVM-270
 AVS session limit exceeded DIAG-226
 database machines SYVM-267
 definition SYVM-268
 NETID file SYVM-11
 SYSTEXT1 DBA-141
 SYSTEXT2 DBA-141
 SYSUSAGE
 exclusive locking on DIAG-179
 SYSUSAGE catalog table SQLREF-405
 SYSUSERAUTH
 exclusive locking on DIAG-180
 SYSUSERAUTH and SYSUSERLIST
 catalog table SQLREF-406
 SYSUSERLIST view on SYSUSERAUTH SQLREF-406
 SYSUSERLIST view on SYSUSERAUTH
 SYSUSERLIST SQLREF-406
 SYSVIEWS
 exclusive locking on DIAG-180
 SYSVIEWS catalog table SQLREF-406, SQLREF-409
T
 TAB ISQL-25, ISQL-138
 TABID column SQLREF-369
 TABID column
 of SYACCESS SQLREF-373
 of SYSCATALOG SQLREF-376
 of SYSDROP SQLREF-386
 table
 accessing APP-30
 accessing those belonging to other users ISQL-84
 adding
 column ISQL-79
 foreign key ISQL-81
 primary key ISQL-80
 referential constraint ISQL-81
 allocation to dbspace PERF-76
 altering APP-261, DBA-64, DBA-189, ISQL-80, ISQL-81
 average row length PERF-38

table (continued)

- backing up DBA-133
- catalog
 - automatic statistics collection PERF-113
 - information PERF-38
 - locking PERF-98
- changing
 - ALTER TABLE SQLREF-158
- character classification SYVM-454, SYVM-366
- clustering rows on an index DBA-49
- column ISQL-1
- copying DBA-62
- copying data DBA-61
- copying data from another table ISQL-78
- creating APP-261, DBA-17, DBA-28, SQLREF-220
- creating
 - description ISQL-76
 - foreign key ISQL-80
 - indexes APP-261
 - primary key ISQL-80
 - share ISQL-83
 - synonyms APP-262
- creator DBA-41
- customized for specific user DBA-42
- defining a relationship DBA-2
- defining labels APP-262
- definition SQLREF-10
- delete-connected APP-290
- deleting DBA-72, ISQL-78
- dependent APP-290, DBA-7
- descendent APP-290
- description ISQL-1
- design
 - normalizing DBA-29
- design modification PERF-154
- designator SQLREF-66
- designator
 - rules APP-70, APP-88
- determining name ISQL-75
- dropping APP-261, DBA-72, DBA-189, SQLREF-258, SQLREF-259
- editing DBA-158
- entering comments in catalog tables APP-262
- estimating storage for DBA-224
- example ISQL-1
- explanation PERF-143
- exposed table name APP-70
- in dbspace DBA-21
- index
 - creating ISQL-85
 - dropping ISQL-85
- labels APP-68
- large table problems DIAG-170, DIAG-199
- limiting access to DBA-42
- listing name ISQL-75
- loading DBA-150
- loading data DBA-59
- location in dbspaces DBA-20, SYVM-145, SYVM-125
- LOCK TABLE statement PERF-114

table (continued)

- locking
 - to avoid escalations DIAG-204
- maintaining DBA-59
- maintenance
 - altering DBA-57
 - copying DBA-57
 - loading data DBA-57
 - merging data DBA-57
 - moving DBA-57
 - referential integrity DBA-57
 - removing DBA-57
- mapping to DBSPACES DIAG-158, DIAG-170
- maximum byte count SQLREF-350
- maximum number in a relational database SQLREF-350
- maximum number referenced in a statement SQLREF-350
- maximum number referenced in a view SQLREF-350
- merging data from multiple tables DBA-63
- methods of joining PERF-133
- minimum content ISQL-78
- moving DBA-62, PERF-76
- name DBSU-111
- naming DBA-28
- naming convention APP-25
- naming conventions ISQL-1
- nested loop join PERF-133
- nonexposed table name APP-70
- normalizing DBA-9
- number of pages PERF-39 or view
 - privileges APP-270
- overflow rows PERF-38
- owner DBA-41, ISQL-82
- parent DBA-7
- parent table APP-290
- placement in dbspace DBA-41, PERF-121
- primary key DBA-4, SQLREF-11
- privilege DBA-94
- putting in own DBSPACE DIAG-234
- removing DBA-72
- reorganize PERF-71
- retrieving catalog information DBA-53
- ROUTINE DBA-151
- ROUTINE
 - creating ISQL-69
 - entering data ISQL-69
- row ISQL-1
- self-referencing APP-290, DBA-7
- sharing with another user ISQL-82, ISQL-83
- small table problems DIAG-183
- space-wasting table designs DBA-30
- splitting DIAG-148, DIAG-233
- storing comments on DBA-55
- synonym
 - creating ISQL-84
 - dropping ISQL-85
- SYSTEXT1 and SYSTEXT2 DBA-141
- target DBSU-28
- temporary SQLREF-310
- total number of rows PERF-38

table (continued)

- transaction tables DIAG-148
- unloading DBA-150
- using another user's ISQL-84
- value ISQL-1
- TABLE clause
 - of COMMENT ON statement SQLREF-179
 - of DROP statement SQLREF-258, SQLREF-259
 - of LABEL ON statement SQLREF-304
- table description, key SQLREF-11
- table designator
 - FROM clause SQLREF-66
- table expression
 - DB2 Server for VSE & VM equivalent term SQLREF-423
- table unload DBSU-67
- TABLE unload DBSU-66
- table_id
 - description SQLREF-40
- table_name
 - description SQLREF-40
 - in ALTER TABLE statement SQLREF-158, SQLREF-159, SQLREF-162
 - in COMMENT ON PROCEDURE statement SQLREF-181
 - in COMMENT ON statement SQLREF-179
 - in CREATE INDEX statement SQLREF-199, SQLREF-200
 - in CREATE SYNONYM statement SQLREF-219
 - in CREATE TABLE statement SQLREF-222, SQLREF-226
 - in DELETE statement SQLREF-244
 - in DROP statement SQLREF-258, SQLREF-259
 - in FROM clause SQLREF-124
 - in GRANT statement SQLREF-294, SQLREF-295
 - in INSERT statement SQLREF-299, SQLREF-300
 - in LABEL ON statement SQLREF-304
 - in REVOKE statement SQLREF-331, SQLREF-332
 - in subselect SQLREF-122
 - in UPDATE statement SQLREF-340
 - in UPDATE STATISTICS statement SQLREF-345
 - length limitation SQLREF-349
- table-name
 - in DELETE statement SQLREF-244
- TABLEORD column SQLREF-369
- TABLEORD column
 - of SYSKEYCOLS SQLREF-390
- tables, CICS/VS APP-18
- TABLETYPE column SQLREF-369
- TABLETYPE column
 - of SYSCATALOG SQLREF-375
- TABTYPE column SQLREF-369
- TABTYPE column
 - of SYSACCESS SQLREF-374
- tape
 - accounting OPER-45

- tape (*continued*)
 - accounting
 - example SYVM-192
 - archiving SYVM-8, SYVM-10
 - damage SYVM-220
 - DASD data file errors DBSU-224
 - DBS utility processing SYVM-8, SYVM-10
 - FILEDEFs SYVM-74
 - LABELDEFs SYVM-74
 - labeled SYVM-75
 - labeling SYVM-214, SYVM-156
 - log archive OPER-50
 - requirements SYVM-8, SYVM-10
 - rewinding OPER-161
 - single-volume SYVM-75
 - support SYVM-74
 - tracing SYVM-8, SYVM-10
 - unlabeled SYVM-75
- tape blocking
 - DBS utility PERF-114
- tape drive
 - alternate virtual device address SYVM-76
- tape drive, alternative virtual device number OPER-11
- Tape Manager Support
 - alternate tape drive SYVM-76
- tape-file support DBSU-227
- TAPEMGR OPER-190
- TAPEMGR
 - initialization parameter OPER-190
 - initialization parameter description SYVM-71, SYVM-64
- target specification
 - DB2 Server for VSE & VM equivalent term SQLREF-423
- target table DBSU-28
- target value APP-48
- target working storage size PERF-217
- target working storage size choosing PERF-200
- SET OPER-206
- SHOW OPER-212
 - understanding PERF-166
- TARGETWS initialization parameter OPER-197
- task-related user exits
 - disabling DRDA support OPER-41
 - enabling OPER-39
 - managing OPER-38
 - setting parameters OPER-39
- Task-Related User exits OPER-38
- TASKNO (CICS task number) OPER-22
- tasks
 - command input DBSU-95
 - DB2 Server for VSE & VM preprocessing DBSU-83
 - FILEDEF
 - DATALOAD DBSU-35
 - DATAUNLOAD DBSU-62
 - RELOAD DBSPACE DBSU-81
 - RELOAD TABLE DBSU-81
 - UNLOAD DBSPACE DBSU-67
 - UNLOAD TABLE DBSU-67
 - including data in message file DBSU-96
- tasks (*continued*)
 - including data in report DBSU-95
 - interpreting the output of the Database Services Utility DBSU-95
 - loading data DBSU-27
 - message file output
 - error recovery DBSU-100
 - RELOAD PACKAGE command DBSU-87
 - RELOAD PACKAGE command file definition DBSU-92
 - reloading
 - data DBSU-71
 - package DBSU-83
 - report output DBSU-100
 - report output
 - understanding DBSU-95
 - SQLDBSU EXEC DBSU-15
 - system output DBSU-95
 - understanding report output DBSU-95
 - UNLOAD PACKAGE command DBSU-85
 - UNLOAD PACKAGE command file definition DBSU-92
 - unloading
 - data DBSU-51
 - package DBSU-83, DBSU-85
- TCI (Table Column Identification) subcommand DBSU-148
- TCPCAN initialization parameter SYVM-62
- TCPCAN parameter
 - for initialization OPER-196
- TCPDISPB initialization parameter SYVM-55
- TCPDISPB parameter
 - for initialization OPER-195
- TCPMAXRT OPER-190
- TCPMAXRT
 - initialization parameter OPER-190
- TCPMAXRT initialization parameter SYVM-61, SYVM-55
- TCPPORT initialization parameter SYVM-61, SYVM-55
- TCPPORT initialization parameter description OPER-190
- TCPPORT parameter
 - for initialization OPER-190
- TCPRETRY OPER-191
- TCPRETRY
 - initialization parameter OPER-191
- TCPRETRY initialization parameter SYVM-61, SYVM-55
- TCREATOR column SQLREF-369
- TCREATOR column
 - of SYSKEYCOLS SQLREF-390
 - of SYSKEYS SQLREF-391
 - of SYSTABAUTH SQLREF-403
- temporary storage
 - local copy PERF-83
 - virtual disk PERF-48, PERF-54
- temporary tables in OPEN SQLREF-310
- TERMIN (CICS terminal ID) OPER-22
- TERMIN keyword ISQL-122
- terminal
 - display ISQL-1, ISQL-3
 - operator id DBA-103
- terminal (*continued*)
 - printer DBA-205, DBA-207, DBA-208
 - requirements SYVM-8, SYVM-11
 - session ISQL-3
 - session
 - starting ISQL ISQL-4, ISQL-5
 - used to load data into a database DBA-60
- terminal control, CICS OPER-44
- terminal input mode DBSU-131
- terminal line-edit SYVM-278
- terminal line-edit
 - symbols SYVM-281
- terminal operator id APP-153
- terminal printer SYVM-3
- terminal, CICS OPER-18
- terminating
 - CMS applications APP-15
 - logical unit of work (LUW) SQLREF-183, SQLREF-335
 - online applications SYVM-131, SYVM-115
- terminating the application server
 - online support OPER-29
 - SQLEND operator command OPER-11
- termination
 - abnormal DIAG-271
 - batch programs APP-16
 - CICS transaction DBA-127
 - CICS/VSE programs APP-17
 - COMMIT statement SQLREF-184
 - concepts DIAG-78
 - description SQLREF-185
 - ICCF applications APP-16
 - multiple user mode batch application DBA-126
 - single user mode applications DBA-127
- terminology DBSU-viii
- terminology
 - concepts DIAG-5
 - performance analysis DIAG-129
- terminology for database design DBA-1
- test data
 - loading DBA-162
- test workload PERF-3, PERF-6
- testing
 - application code under VSE/ICCF DBA-165
 - existence APP-88
 - SQLCA APP-200
- testing SQL functions
 - SET RUNMODE DBA-164
 - using ISQL DBA-173
 - using ISQL routines DBA-163
 - using stored queries DBA-163
 - using the DBS Utility DBA-164
- text highlighting conventions DBSU-xi
- text_file_name with INCLUDE statement SQLREF-297
- the application server
 - starting SYVM-53, SYVM-47
- thousands separator ISQL-56, ISQL-130
- thrashing PERF-46
- throughput PERF-1, PERF-5
- TID (row pointers) DBA-225, DBA-236
- time SQLREF-49

time
 arithmetic SQLREF-77
 arithmetic operations
 duration SQLREF-77
 components PERF-4
 data type
 description SQLREF-49
 duration SQLREF-75
 elapsed PERF-4
 exit SYVM-353, SYVM-276,
 SYVM-277
 representation, internal & SQLDA
 SQLREF-49
 response PERF-4
 string SQLREF-50

TIME DBSU-150, DBSU-172

TIME
 assignment SQLREF-57
 data type
 in ALTER TABLE SQLREF-159
 in CREATE TABLE SQLREF-224
 function SQLREF-112

TIME data type DBA-35

TIME data type
 assembler APP-317
 C APP-347
 COBOL APP-365
 Fortran APP-379
 PL/I APP-391

time duration
 description DBA-181

TIME option
 of CREATE PACKAGE statement
 SQLREF-207

TIME parameter of exec DBA-255

TIMEFORMAT parameter of exec
 DBA-247

timestamp SQLREF-49

timestamp
 arithmetic operations SQLREF-78
 data type
 description SQLREF-49
 duration SQLREF-75
 representation, internal & SQLDA
 SQLREF-49
 string SQLREF-51

TIMESTAMP DBSU-151, DBSU-173

TIMESTAMP
 assignment SQLREF-57
 data type
 assembler APP-318
 C APP-347
 COBOL APP-365
 Fortran APP-379
 in ALTER TABLE SQLREF-159
 in CREATE TABLE SQLREF-224
 PL/I APP-392
 duration APP-278
 function SQLREF-113

TIMESTAMP column SQLREF-369

TIMESTAMP column
 of SYACCESS SQLREF-374
 of SYSCOLAUTH SQLREF-379
 of SYSKEYCOLS SQLREF-390
 of SYSKEYS SQLREF-392
 of SYSPROGAUTH SQLREF-397
 of SYSTABAUTH SQLREF-403

TIMESTAMP column (continued)
 of SYSUSAGE SQLREF-405

TIMESTAMP date type DBA-35

timestamp duration
 description DBA-181

title for printed report ISQL-50, ISQL-109

TLABEL column SQLREF-369

TLABEL column
 LABEL ON statement SQLREF-304
 of SYSCATALOG SQLREF-377

TLBL statement OPER-8

TNAME column SQLREF-369

TNAME column
 of SYACCESS SQLREF-373
 of SYSCATALOG SQLREF-375
 of SYSCOLAUTH SQLREF-379
 of SYSCOLSTATS SQLREF-380
 of SYSCOLUMNS SQLREF-381
 of SYSFIELDS SQLREF-386
 of SYSPARMS SQLREF-387
 of SYSINDEXES SQLREF-388
 of SYSKEYCOLS SQLREF-390
 of SYSKEYS SQLREF-391
 of SYSSYNONYMS SQLREF-402

TO clause
 of CONNECT statement SQLREF-186,
 SQLREF-192
 of GRANT statement SQLREF-289,
 SQLREF-294, SQLREF-295

token
 delimiter SQLREF-36
 description SQLREF-36
 ordinary SQLREF-36

tools
 measurement PERF-7, PERF-8
 measurement
 catalog table PERF-8
 CICS PERF-8
 CICS monitoring facility PERF-8
 CICS statistics PERF-8
 CICSPARS PERF-8
 CIRD transaction PERF-8
 COUNTER operator command
 PERF-9
 CP INDICATE USER PERF-8
 CP monitor PERF-7
 CP QUERY TIME PERF-8
 database manager PERF-19
 DB2 Server DSS COUNTER POOL
 PERF-9
 DB2 Server DSS SHOW
 TARGETWS PERF-9
 DB2 Server for VSE & VM PERF-8
 DB2 Server for VSE & VM
 accounting PERF-9
 DB2 Server for VSE & VM trace
 PERF-9
 IBM DB2 for VM Control Center
 PERF-9
 initialization parameter PERF-8
 operating system PERF-14
 RTM VM/ESA PERF-8
 SHOW operator command PERF-9
 VM PERF-7
 VM/PRF PERF-7
 VMMAP PERF-8
 VSAM LISTCAT PERF-8

tools (continued)
 measurement (continued)
 VSE PERF-8
 VSE interactive interface PERF-8

total for report
 erasing ISQL-49
 TOTAL keyword ISQL-48

TOTAL option of FORMAT command
 create total ISQL-48
 erasing ISQL-49
 reference ISQL-111

total, final ISQL-111

TOTCPU counter PERF-15

TOUSER keyword ISQL-122

TPN
 See transaction program name
 SYVM-23

TRACCONV initialization parameter
 OPER-193, SYVM-72, SYVM-66

TRACCONV parameter
 SQLSTART SYVM-72

TRACDBSS initialization parameter
 OPER-160, OPER-191, SYVM-72,
 SYVM-66

TRACDRRM initialization parameter
 OPER-191, SYVM-72, SYVM-66

TRACDRRM parameter
 SQLSTART SYVM-72

TRACDSC initialization parameter
 OPER-160, OPER-192, SYVM-72,
 SYVM-66

trace
 measurement tool PERF-9

trace buffer
 purging OPER-13

trace DBSS, specifying OPER-191

trace facility
 description DIAG-300
 for deadlocks DIAG-300

TRACE operator command
 DISK option OPER-161
 DUMP option OPER-161

trace services OPER-166, OPER-168

TRACEBUF initialization parameter
 OPER-192, SYVM-72, SYVM-67

TRACEBUF parameter
 SQLSTART SYVM-72, SYVM-67

TRACECONV parameter of exec
 DBA-248, DBA-256, DBA-275

TRACEDRRM parameter of exec
 DBA-247, DBA-256, DBA-274

TRACERA parameter of exec DBA-247,
 DBA-256, DBA-274

tracing
 choosing subcomponents OPER-159
 closing a trace file OPER-166
 DBSS (Database Storage Subsystem)
 OPER-163, OPER-191
 DBSS functions and subcomponents
 OPER-163
 default FILEDEF SYVM-80
 DRDA data stream OPER-164,
 OPER-172
 DRRM (Distributed Relational
 Resource Adapter) OPER-163
 DSC (Data System Control) OPER-163

- tracing (*continued*)
 - DSC functions and subcomponents OPER-164
 - facility OPER-155
 - formatting utility OPER-166, OPER-168
 - level 0 trace OPER-163
 - level 1 trace OPER-163
 - level 2 trace OPER-163
 - output file (ARITRAC) OPER-10
 - RDS (Relational Data System) OPER-163
 - starting a trace OPER-160
 - STG (Storage) OPER-163
 - stopping a trace OPER-165
 - tape requirements SYVM-8, SYVM-10
 - tape support for SYVM-68, SYVM-69 to tape OPER-167
 - WUM (Work Unit Manager) OPER-163
- tracing, CICS and Batch Resource Adapter DBA-279
- tracing, security audit DBA-111
- TRACRDS initialization parameter OPER-160, OPER-192, SYVM-72, SYVM-66
- TRACSTG initialization parameter OPER-192, SYVM-72, SYVM-66
- TRACSTG parameter SQLSTART SYVM-72
- TRACWUM initialization parameter OPER-193, SYVM-72, SYVM-66
- TRACWUM parameter SQLSTART SYVM-72
- trade-off, performance PERF-2
- trading
 - lock level PERF-99
- trailing blanks APP-68, APP-72
- trailing blanks
 - string assignment SQLREF-55
- trailing sign, zoned field DBSU-153
- training new ISQL users DBA-85
- TRANID (CICS transaction ID) OPER-22
- transaction
 - CIRB PERF-90
 - CIRD PERF-8, PERF-21
 - CIRT PERF-90
 - CSTT PERF-18
 - DB2 Server for VSE & VM equivalent term SQLREF-423
 - name
 - ISQL PERF-80
 - per second PERF-5
 - time, CICS PERF-18
- transaction information displaying SYVM-119, SYVM-103
- transaction processing DBA-150, DBA-204
- transaction program DBA-150
- transaction program name SYVM-23
- transaction tables DIAG-148
- transactions
 - See also* CICS/VSE
 - CEMT SYVM-132, SYVM-116
 - CIRA OPER-33
 - CIRB OPER-18
 - CIRC OPER-36
- transactions (*continued*)
 - CIRD OPER-20, SYVM-99, SYVM-83
 - CIRR OPER-34
 - CIRT OPER-29, SYVM-128, SYVM-112
 - CSMT SYVM-132, SYVM-116
 - DAXP OPER-39
 - DAXT OPER-41
- transient index DIAG-52, OPER-90, OPER-93, PERF-74
- transient index SHOW INVALID PERF-75
- TRANSLATE
 - function SQLREF-115
- TRANSLATE function folding rules SYVM-308, SYVM-234
- translation
 - fast CCW PERF-79
 - of performance measurements to indicators PERF-15
- translation table
 - character sets SYVM-458, SYVM-370
 - coded character set identifier (CCSID) SYVM-332, SYVM-259
 - identifying SYVM-57, SYVM-51
- Transparent Services Access Facility (TSAF) SYVM-268
- Transparent Services Access Facility (TSAF) collection
 - database machines SYVM-267
 - definition SYVM-268
- TRANSPROC column SQLREF-369
- TRANSPROC column
 - of SYSSTRINGS SQLREF-401
- TRANSPROC exit
 - coding your own SYVM-363, SYVM-284
- TRANSTAB1 column SQLREF-369
- TRANSTAB1 column
 - of SYSSTRINGS SQLREF-402
- TRANSTAB2 column SQLREF-369
- TRANSTAB2 column
 - of SYSSTRINGS SQLREF-402
- TRANSTYPE column SQLREF-369
- TRANSTYPE column
 - of SYSSTRINGS SQLREF-401
- TRCPURGE OPER-13
- trigraphs
 - C APP-341
- TRUE (Task-Related User exits) OPER-38
- TRUE (task-related user exits) disabling OPER-41
- TRUE (task-related user exits) enabling OPER-39
- truncation
 - DBCS data DBSU-172
 - during data unloading DBSU-189
 - numbers SQLREF-54
 - on output DBA-178, SQLREF-420
 - string SQLREF-56
- truth table SQLREF-89
- truth valued logic SQLREF-89
- TSAF DBA-197
- TSAF collection
 - distributed database PERF-81
- TTITLE option of FORMAT command
 - creating top title ISQL-50
 - example ISQL-51
 - reference ISQL-109
- TTNAME column SQLREF-369
- TTNAME column
 - of SYSTABAUTH SQLREF-403
- tuning
 - by levels PERF-2
 - guidelines PERF-1
 - queries PERF-132
 - trade-off PERF-12
- tuning parameter
 - access path, lock contention PERF-96
 - ARCHPCT PERF-107
 - CIRB transaction PERF-90
 - deadlock PERF-101
 - DISPBIAS PERF-93
 - index lock contention PERF-96
 - isolation level PERF-97
 - lock level PERF-96
 - logical unit of work, lock contention PERF-96
 - MAXCONN PERF-91
 - minimum lock level PERF-96
 - NCUSERS PERF-87, PERF-88, PERF-96
 - NDIRBUF PERF-87
 - NLRBS PERF-99
 - NLRBU PERF-99
 - NPACKAGE PERF-88
 - NPACKPCT PERF-88
 - NPAGBUF PERF-87
 - PCTFREE PERF-62, PERF-63
 - PCTINDEX PERF-61
 - PROTOCOL PERF-108
 - RMTUSERS PERF-91
 - SLOGCUSH PERF-107
 - SOSLEVEL PERF-59
- turning off the application server
 - online support OPER-29
 - SQLEND operator command OPER-11
- turning on online support OPER-18
- two logs, specifying OPER-181
- two-phase commit SYVM-109, SYVM-93
- type of error DBSU-223
- type of keyword DIAG-82
- type of keyword
 - abnormal termination DIAG-83
 - component identification DIAG-82
 - document DIAG-98
 - first failure data capture DIAG-88
 - incorrect or missing output DIAG-98
 - message DIAG-85
 - NO RESPONSE DIAG-97
 - release level DIAG-82
 - SLOW RESPONSE DIAG-97
- types of locks SQLREF-20
- typing errors
 - CHANGE ISQL-34
 - correcting ISQL-14
 - IGNORE ISQL-14, ISQL-35
 - RETRIEVE ISQL-31

U

unallocated pages
 archiving SYVM-197, SYVM-147

unary
 minus SQLREF-73
 plus SQLREF-73

unclustered index PERF-67

uncommitted read
 guidelines for using ISQL-87
 isolation level ISQL-87, SQLREF-21

uncommitted read (UR) DIAG-68

uncommitted read (UR)
 description DIAG-68
 isolation level DBSU-219, PERF-97
 ISQL PERF-113
 to avoid long lock waits DIAG-206
 using DIAG-147, DIAG-178,
 DIAG-183, DIAG-184

undefined reference
 column name SQLREF-66

undercommitting dbspace storage
 SYVM-156, SYVM-132

underscore (_)
 in LIKE predicate SQLREF-86

UNDO
 invalid index PERF-74

Unicode data SYVM-329, SYVM-256

UNION
 instead of OR DIAG-196
 use in place of OR DIAG-190

UNION ALL APP-89

UNION ALL clause
 of fullselect SQLREF-128

UNION clause
 duplicate rows SQLREF-128
 of fullselect SQLREF-128

UNION operator
 CCSID APP-91
 character subtypes APP-91
 description APP-89
 ordering results APP-89, APP-90
 restriction for CREATE VIEW APP-63
 usage restrictions involving
 data types APP-90
 LONG VARCHAR data APP-90
 subqueries APP-91
 VARCHAR and VARGRAPHIC
 APP-91
 views APP-91

unions APP-89

unions
 See also UNION operator
 See UNION operator APP-89

UNIQUE clause
 of ALTER TABLE statement
 SQLREF-163
 of CREATE INDEX statement
 SQLREF-199
 of CREATE TABLE statement
 SQLREF-224, SQLREF-226

unique constraint
 activating DBA-68, ISQL-81
 considerations in defining DBA-38
 deactivating ISQL-81
 description DBA-5, DBA-38,
 SQLREF-12
 implicit DBA-48

unique constraint (*continued*)
 instead of unique index DBA-48
 invalid index PERF-75
 key SQLREF-11
 referential integrity DBA-6
 reorganizing index DBA-68
 when creating a table DBA-38

unique constraints DBSU-65

unique index SQLREF-11

unique index
 creating DBA-47
 general description DBA-48
 invalid index PERF-74
 row level locking PERF-96
 when to use DBA-52
 with key matching predicate
 PERF-120

unique on columns APP-288

uniquely identifying an object APP-25

unit of work

See also logical unit of work (LUW)
 ISO-ANS SQL(89) equivalent term
 SQLREF-424

Universal Coordinated Time (UTC)
 SQLREF-63

unlabeled tapes SYVM-75

unlike
 description DBA-13

UNLOAD
 block size PERF-114
 locking PERF-114

UNLOAD data used as input DBSU-27

UNLOAD DBSPACE command
 description DBSU-201
 example DBSU-63
 procedures DBSU-63
 syntax diagram DBSU-201
 task DBSU-66

UNLOAD PACKAGE
 DBS utility PERF-115

UNLOAD PACKAGE command
 locking conditions DBSU-228
 performance considerations DBSU-229
 reference DBSU-211
 task DBSU-85

UNLOAD TABLE command
 description DBSU-204
 example DBSU-64
 procedures DBSU-66
 syntax diagram DBSU-204
 task DBSU-66

unload-data tasks
 using FILEDEFS
 DATAUNLOAD DBSU-62
 UNLOAD DBSPACE DBSU-67
 UNLOAD TABLE DBSU-67

unloading
 column to more than one output
 record DBSU-170

data
 system-determined format
 DBSU-52
 user-specified format DBSU-57

definition of DIAG-132

package DBSU-85

performance problem index DIAG-138

unloading (*continued*)
 possible I/O problems DIAG-169,
 DIAG-199, DIAG-224
 possible lock escalation problems
 DIAG-203

 possible lock wait problems
 DIAG-145, DIAG-164, DIAG-183,
 DIAG-202

 procedure

 dbspace DBSU-63
 table DBSU-63
 program DBSU-85
 view DBSU-61

unnamed column
 ORDER BY clause SQLREF-133

unreadable data cause DBSU-231

unresolved external reference APP-143,
 APP-180

unused package SYVM-155, SYVM-131

update

 isolation level SQLREF-20
 on view SQLREF-17
 SQLGLOB parameters SYVM-253

UPDATE DIAG-72

UPDATE

 assignment rules SQLREF-53
 performance problem index DIAG-137
 restriction for view DBA-45
 rules APP-294

UPDATE clause
 of GRANT statement SQLREF-294,
 SQLREF-295
 of REVOKE statement SQLREF-331,
 SQLREF-332
 of select-statement SQLREF-134

update lock
 description DIAG-70, PERF-95

update rule APP-294

update rule
 dependent table DBA-9
 description SQLREF-16
 parent table DBA-8

UPDATE statement
 description SQLREF-339

EXECUTE IMMEDIATE statement
 SQLREF-272

EXPLAIN statement SQLREF-274

Extended DECLARE CURSOR
 statement SQLREF-241

FETCH statement SQLREF-285

isolation level setting ISQL-89

OPEN statement SQLREF-310

Positioned UPDATE form
 SQLREF-339

PREPARE statement SQLREF-315

Searched UPDATE form SQLREF-339

UPDATE STATISTICS APP-262, DBA-63

UPDATE STATISTICS
 ALL PERF-138
 automatic statistics collection
 PERF-113
 by DATALOAD DIAG-234
 clustered index PERF-68
 DBS utility PERF-113
 exclusive locking in catalogs
 DIAG-180
 performance problem index DIAG-138

UPDATE STATISTICS *(continued)*
 possible DBSPACE scan problems
 DIAG-169
 possible I/O problems DIAG-199,
 DIAG-224
 reorganize a dbspace PERF-72
 reorganize a single table PERF-71
 REORGANIZE INDEX DBSU-229
 statistics collection DBSU-82
 usage considerations DBSU-229
 use of DIAG-189

UPDATE STATISTICS statement ISQL-86

UPDATE STATISTICS statement
 description SQLREF-345
 EXECUTE IMMEDIATE statement
 SQLREF-272
 PREPARE statement SQLREF-315

update statistics tracing OPER-163,
 OPER-191

UPDATEAUTH column SQLREF-369

UPDATEAUTH column
 of SYSTABAUTH SQLREF-404

UPDATECOLS column SQLREF-369

UPDATECOLS column
 of SYSTABAUTH SQLREF-403

updating
 data statistics
 problems addressed DIAG-189
 internal statistics APP-262
 partial rows SYVM-243, SYVM-180
 routine ISQL-70
 VM directory entries SYVM-275,
 SYVM-280

updating statistics DBSU-82

updating up your DBNAME directory
 SYVM-214

upgrading hardware PERF-2

uppercase SQLREF-35, SQLREF-36

uppercase characters, input ISQL-129

UR attribute
 isolation level SQLREF-21
 isolation option
 CREATE PACKAGE statement
 SQLREF-203

UR isolation level DBSU-219

USA (IBM USA standard)
 format SQLREF-50

USA attribute
 DATE option
 CREATE PACKAGE statement
 SQLREF-203

usage environment
 application development DBA-162,
 DBA-172, DBA-206
 batch/interactive DBA-102, DBA-149,
 DBA-169, DBA-203
 cics/vse online DBA-101
 description DBA-203, DBA-209
 online transaction processing
 DBA-103, DBA-150, DBA-171,
 DBA-204
 query/report writing DBA-151,
 DBA-175, DBA-207

use of multiple LUW's DIAG-146,
 DIAG-150, DIAG-177, DIAG-206

user
 CONNECT statement SQLREF-186,
 SQLREF-192
 forcing OPER-51
 partitions OPER-8
 SHOW LOCK USER command
 OPER-106
 SHOW PROC command OPER-122
 SHOW PROC example OPER-124
 SHOW PSERVER command
 OPER-125
 SHOW PSERVER example OPER-126
 SHOW USERS command OPER-135
 SHOW USERS example OPER-136
 START PROC command OPER-137
 START PROC example OPER-138
 START PSERVER command
 OPER-138
 START PSERVER example OPER-140
 START TCPIP command OPER-140
 STOP PROC command OPER-141
 STOP PROC example OPER-142
 STOP PSERVER command OPER-143
 STOP PSERVER example OPER-145

USER
 isolation level SQLREF-22

user agent PERF-88

user archive
 creating OPER-48, SYVM-205,
 SYVM-153
 database manager start-up OPER-188
 UARCHIVE option OPER-12
 VSAM backup command SYVM-154
 VSAM RESTORE command
 SYVM-160
 VSE/VSAM example OPER-49

user assistance
See supporting your users

USER attribute
 isolation option
 CREATE PACKAGE statement
 SQLREF-203

user display, issuing operator commands
 OPER-45

user error DBA-129, DBA-133, DBA-135

user exits DIAG-275

user facility subset
 converting to a database SYVM-49
 description SYVM-1
 minidisk requirements SYVM-8

user free storage SYVM-173

user ID DBA-175, SQLREF-369

user ID
 CICS OPER-18
 CICS default rules for DBA-103
 CICS/VSE default rules APP-153
 CICSUSER default APP-153
 COMMIT statement SQLREF-183
 for ISQL session ISQL-3
 naming convention APP-25
 ROLLBACK statement SQLREF-335
 special
 CICSUSER DBA-103
 DBDCCICS DBA-90
 virtual machine OPER-66, OPER-93,
 OPER-136

user identification and verification
 DBA-171

USER isolation
 remote unit of work APP-124

USER isolation level PERF-98

USER keyword
 in LIKE predicate SQLREF-86

user machine DBA-81, DBA-83, DBA-194

user machine
 additional SYVM-282
 defining SYVM-282
 example control statements SYVM-282
 minidisk requirements SYVM-8
 minidisks SYVM-8
 PROFILE EXEC SYVM-283
 size SYVM-5

user mode
 multiple OPER-8
 single OPER-8

user parameters
 for starting the application server
 SYVM-73
 in single user mode APP-147,
 SYVM-85
 user application program SYVM-74

user privilege DBA-94

user program
 options OPER-9
 single user mode OPER-9

user restore
 definition SYVM-216, SYVM-159

USER special register APP-54, ISQL-76,
 SQLREF-62

user-related error codes DIAG-120

user-related error codes
 Alter/drop failed (-913) DIAG-124
 command limitation exceeded (-101)
 DIAG-120
 creator.table not found (-204)
 DIAG-121
 indicator variable is missing (-305)
 DIAG-122
 input host variable too large (-302)
 DIAG-122
 input variable data type not
 compatible with column (-301)
 DIAG-121
 mismatch between number of host
 variables (-313) DIAG-123
 output data type not compatible (-303)
 DIAG-122
 output host variable too large (-304)
 DIAG-122
 SQL call failed (-471) DIAG-123
 SQL call timeout (-913) DIAG-124
 storage overlay in stored procedure
 server (-450) DIAG-123

user-specified
 data unloading DBSU-57
 format, loading data DBSU-32
 output record format example
 DBSU-185

user, remote
 forcing OPER-53

USERDATA OPER-22

USERid
 bind parameter APP-150

USERid (*continued*)
 preprocessor parameter APP-161
 USERID column SQLREF-369
 USERID column
 of SYSSYNONYMS SQLREF-402
 USERid preprocessor parameter APP-119
 userid resolution SYVM-140
 USERID, CIRD transaction OPER-22
 users, number of concurrent OPER-184
 using AMODE(24)
 incompatibilities SQLREF-464,
 SYVM-515, SYVM-421
 USING clause
 of DESCRIBE statement SQLREF-248,
 SQLREF-250
 of EXECUTE statement SQLREF-265
 of Extended DESCRIBE statement
 SQLREF-252
 of OPEN statement SQLREF-308
 USING DESCRIPTOR clause
 of EXECUTE statement SQLREF-265
 of Extended EXECUTE statement
 SQLREF-269
 of Extended FETCH statement
 SQLREF-288
 of Extended OPEN statement
 SQLREF-313
 of Extended PREPARE statement
 SQLREF-319
 of Extended PUT statement
 SQLREF-326
 of FETCH statement SQLREF-284
 of OPEN statement SQLREF-308,
 SQLREF-309
 of PUT statement SQLREF-323
 using indexing in logical data design
 DBA-47
 USING OPTIONS clause
 of CREATE PACKAGE statement
 SQLREF-202
 USING OUTPUT DESCRIPTOR clause
 of Extended EXECUTE statement
 SQLREF-269
 using the Database Services Utility
 application program DBSU-105
 C program DBSU-114
 COBOL program DBSU-114
 PL/I program DBSU-114
 using the directory verify function
 DIAG-267
 UTC (Universal Coordinated Time)
 See Universal Coordinated Time
 (UTC)
 Utilities
 ARISAVES SYVM-469
 ARISPDFC SYVM-471
 SQLBOOTS SYVM-472
 SQLDBDEF SYVM-473, SYVM-381
 SQLDBLD SYVM-472
 SQLGENLD SYVM-477

 VAL10 column
 of SYSCOLSTATS SQLREF-380
 VAL50 column SQLREF-369
 VAL50 column
 of SYSCOLSTATS SQLREF-380
 VAL90 column SQLREF-369
 VAL90 column
 of SYSCOLSTATS SQLREF-380
 VALID column SQLREF-369
 VALID column
 of SYSACCESS SQLREF-374
 valid lock size APP-258
 value
 description ISQL-1
 descriptors in field procedures
 SYVM-376, SYVM-295
 in tables SQLREF-10
 interpreting by data type SQLREF-42
 VALUE
 function SQLREF-117
 VALUE column SQLREF-369
 VALUE column
 of SYSOPTIONS SQLREF-394
 value conversion on unloading DBSU-188
 value expression
 DB2 Server for VSE & VM equivalent
 term SQLREF-423
 VALUES clause
 of INSERT statement SQLREF-299,
 SQLREF-300
 VARCHAR
 choosing rather than CHAR DBA-34
 data type SQLREF-159, SQLREF-223
 in column definition DBA-33
 VARCHAR data type
 assembler APP-317
 C APP-346
 COBOL APP-364
 Fortran APP-378
 PL/I APP-391
 VARCHAR keyword
 FORMAT command ISQL-114
 LIST command ISQL-120
 SET command ISQL-133
 VARGRAPHIC
 choosing rather than GRAPHIC
 DBA-34
 constants within expressions APP-58
 data type SQLREF-159, SQLREF-224
 data type
 assembler APP-317
 C APP-346
 COBOL APP-365
 Fortran APP-378
 PL/I APP-391
 function
 shift-in SQLREF-119
 shift-out SQLREF-119
 variable
 See also placeholder
 current SQL statement ISQL-36
 routines ISQL-71
 stored SQL statements ISQL-62
 variable character column
 current query result ISQL-114
 session ISQL-133

 varying-length
 character string SQLREF-44
 graphic string SQLREF-47
 varying-length rows DBA-29
 VCREATOR column SQLREF-369
 VCREATOR column
 of SYSVIEWS SQLREF-407
 VDISK PERF-49
 verify directory
 using DIAG-267
 verify the database manager PERF-179
 verifying
 directory SYVM-91, SYVM-78
 the directory OPER-13
 very nonunique index
 definition of DIAG-132
 key prefix DIAG-235
 possible I/O problems DIAG-235
 very nonunique key prefix
 definition DIAG-132
 view PERF-113
 view
 addressing selected columns DBA-108
 addressing selected rows DBA-108
 catalog information about DBA-55
 CREATE VIEW APP-62
 CREATE VIEW statement
 SQLREF-232
 creating DBA-17, DBA-42,
 SQLREF-232
 description APP-61, SQLREF-17,
 SQLREF-235
 determining name ISQL-75
 DROP VIEW APP-65
 dropping SQLREF-259
 for multiple tables DBA-43
 listing name ISQL-75
 materialization APP-64
 materializing DBA-46
 modifying tables through APP-64
 naming convention APP-25
 new column names DBA-44
 on a single table DBA-43
 privilege DBA-94
 privilege, restricting ISQL-83
 privileges APP-270
 querying tables through APP-63
 read-only SQLREF-234
 reasons for using DBA-42
 restricting privilege ISQL-83
 restriction on access DBA-108
 restrictions on
 ALTER DBA-45
 DBS DATALOAD DBA-46
 DBS RELOAD DBA-46
 DBS UNLOAD DBA-45
 DELETE DBA-45
 INDEX DBA-45
 INSERT DBA-45
 ISQL INPUT DBA-46
 UPDATE DBA-45
 storing comments on DBA-55
 synonym
 creating ISQL-84
 dropping ISQL-85
 unions
 restriction APP-91

view (*continued*)
 UNLOAD command DBSU-67
 unloading DBSU-61
 using another user's ISQL-84
 using several tables DBA-43

VIEW clause
 of DROP statement SQLREF-258,
 SQLREF-259

view_id
 description SQLREF-40

view_name
 description SQLREF-40, SQLREF-219
 in COMMENT ON PROCEDURE
 statement SQLREF-181
 in COMMENT ON statement
 SQLREF-179
 in CREATE SYNONYM statement
 SQLREF-219
 in CREATE VIEW statement
 SQLREF-232
 in DELETE statement SQLREF-244
 in DROP statement SQLREF-258,
 SQLREF-259
 in FROM clause SQLREF-124
 in GRANT statement SQLREF-294,
 SQLREF-295
 in INSERT statement SQLREF-299,
 SQLREF-300
 in LABEL ON statement SQLREF-304
 in REVOKE statement SQLREF-331,
 SQLREF-332
 in subselect SQLREF-122
 in UPDATE statement SQLREF-340
 length limitation SQLREF-349

VIEWCHECK column SQLREF-369

VIEWCHECK column
 of SYSVIEWS SQLREF-407

viewing columns too wide for the display
 ISQL-138

VIEWMAT column SQLREF-369

VIEWMAT column
 of SYSVIEWS SQLREF-407

VIEWNAME column SQLREF-369

VIEWNAME column
 of SYSVIEWS SQLREF-407

VIEWTEXT column SQLREF-369

VIEWTEXT column
 of SYSVIEWS SQLREF-407

virtual
 addressability extension PERF-79
 columns APP-62
 data APP-62
 dbextent
 virtual disk PERF-55

virtual device address
 alternate tape drive SYVM-76

virtual device number, alternative tape
 drive OPER-11

virtual disk
 ADD PERF-49
 adding internal dbspace PERF-52
 backing up PERF-52
 backup file PERF-50
 cataloged procedure PERF-51
 conditional startup JCL PERF-53
 define PERF-49, PERF-55
 existing pools PERF-51

virtual disk (*continued*)
 increasing virtual storage PERF-48,
 PERF-54
 internal dbspace PERF-48, PERF-54
 MDISK PERF-55
 number of dbextents PERF-52
 procedure to create PERF-48, PERF-54
 PROFILE EXEC PERF-56
 restore backup PERF-53
 storage pool PERF-51, PERF-55,
 PERF-56
 storage pools PERF-163
 SYSDEF PERF-49
 temporary storage PERF-48, PERF-54
 VDISK PERF-49
 virtual and real dbextents PERF-52
 virtual dbextent PERF-51, PERF-55,
 PERF-56
 virtual VSAM cluster PERF-51
 VSAM user catalog PERF-50
 VSIZE PERF-49

virtual disk support
 internal dbspaces SYVM-21,
 SYVM-21, SYVM-126

virtual machine
 database OPER-8
 DB2 Server for VM OPER-8
 fair share scheduling PERF-78
 overview SYVM-1
 size
 DB2 Server for VM database
 manager SYVM-4
 time PERF-15
 user OPER-8, SYVM-282

Virtual Machine (VM)
 accounting SYVM-249
 directory entries
 for a user machine SYVM-282
 for database machines SYVM-280
 updating SYVM-275, SYVM-280
 single console image facility (SCIF)
 SYVM-53

virtual storage OPER-1, PERF-27,
 PERF-43

virtual storage
 as a resource PERF-10
 blocking PERF-111
 for application partitions SYVM-8
 load measurement PERF-14
 partition size SYVM-8
 requirement PERF-172
 requirements SYVM-8
 service machine SYVM-4
 user machine SYVM-5
 virtual addressing PERF-43

VM APP-142

VM
 commands ISQL-91
 executing applications APP-144
 functions ISQL-91
 implicit connect APP-113
 loading a program APP-142, APP-178
 preprocessing programs APP-114

VM Monitor Analysis Program (VMMAP)
 PERF-8

VM system console, issuing operator
 commands OPER-43

VM system paging DASD
 internal dbspace PERF-164
 requirement PERF-173

VM/CMS file
 including secondary input APP-141

VM/ESA OPER-v

VM/ESA
 31 bit addressing PERF-47
 distributed database PERF-81
 requirement PERF-171
 SET QUICKDSP PERF-79
 SET SHARE PERF-79
 virtual disk PERF-54

VM/ESA (Virtual Machine/Enterprise
 Systems Architecture)
 considerations SYVM-274
 DB2 Server for VM features SYVM-1
 directory entries for accounting
 SYVM-249
 environment OPER-v
 migration from a VM/SP operating
 system SYVM-45
 migration from a VM/XA operating
 system SYVM-41
 running the database manager
 SYVM-89

VM/Performance Reporting Facility
 (VM/PRF) PERF-7

VM/SP (Virtual Machine/System
 Product)
 migration to VM/ESA operating
 system SYVM-31

VM/XA SP (Virtual Machine/Extended
 Architecture System Product)
 migration from VM/SP operating
 system SYVM-31
 migration from VM/XA operating
 system SYVM-31
 migration from VSE SYVM-39
 running the database manager
 SYVM-89

VMBACKUP SYVM-196, SYVM-205

VMBACKUP
 optional software SYVM-4

VMMAP PERF-8

VOLID parameter, as applies to log
 archiving SYVM-218

volume considerations
 directory SYVM-15, SYVM-15
 log SYVM-17, SYVM-17

VSAM
 access method services statements
 SYVM-35
 backup PERF-78
 backup and restore PERF-76
 BACKUP command OPER-49
 catalogs SYVM-10, SYVM-214
 cluster
 virtual disk PERF-51
 DASD I/O system PERF-85
 data set password SYVM-119
 data sets for a database SYVM-215
 defining a data set SYVM-35
 definition of database data sets
 SYVM-214
 definition of directory data set
 SYVM-216

- VSAM *(continued)*
 - example backup command for user archive SYVM-154
 - example RESTORE command for user archive SYVM-160
 - file used to load database DBA-61
 - I/O buffer address PERF-79
 - LISTCAT PERF-8, PERF-20
 - password
 - CONTROLPW OPER-194
 - MASTERPW OPER-194
 - release level SYVM-6
 - REPRO DBA-61
 - restriction DBA-77, SYVM-119
 - space management
 - accounting files SYVM-189, SYVM-190
 - user catalog
 - virtual disk PERF-50
 - VSE
 - CICS/VSE CONNECT considerations APP-153
 - compiling a program APP-178
 - preprocessing programs APP-155
 - register save conventions APP-181
 - VSE (Virtual Storage Extended)
 - guest sharing OPER-v, OPER-17
 - VSE batch partition DBA-149
 - VSE guest
 - GRANT statement SQLREF-292
 - VSE guest sharing SYVM-301
 - VSE guest sharing
 - accessing and operator responsibilities SYVM-97, SYVM-81
 - configuration DBA-201, SYVM-301
 - DBNAME directory SYVM-97, SYVM-81
 - granting access DBA-93
 - migration SYVM-40
 - national language messages SYVM-335, SYVM-262
 - online support SYVM-94, SYVM-80
 - release level of VSE SYVM-3
 - removing access DBA-87
 - revoking access DBA-94
 - sample configurations SYVM-302
 - single processor SYVM-302
 - TSAF SYVM-302
 - VM/ESA features supported SYVM-1
 - VTAM product SYVM-303
 - VSE guest user accounting record SYVM-257, SYVM-202
 - VSE interactive interface PERF-8
 - VSE operating system
 - migration to SYVM-39
 - VSE STDOPJ JCC/JCS SYVM-121, SYVM-105
 - VSE/Advanced Functions OPER-v
 - VSE/ESA
 - 31 bit addressing PERF-47
 - 31 bit addressing
 - virtual addressability extension PERF-80
 - virtual disk PERF-48
 - VSE/ICCF
 - application DBA-149
 - application program DBA-169
 - VSE/ICCF *(continued)*
 - application programs SYVM-71
 - control statements for running an application program SYVM-71
 - DBS Utility usage DBA-59
 - release level SYVM-6
 - testing application code DBA-165
 - VSE/POWER DBA-205, DBA-207, DBA-208
 - VSE/Power facility SYVM-3
 - VSE/POWER product
 - release level SYVM-6
 - VSE/VSAM BACKUP command example OPER-49
 - VSE/VSAM BACKUP command, example of SYVM-154
 - VSE/VSAM Backup/Restore SYVM-146
 - VSE/VSAM RESTORE command SYVM-160
 - VSE/VSAM space management for SAM feature SYVM-188
 - VSIZE PERF-49
 - VTIME counter PERF-15
- W**
- wait mode ISQL-13, ISQL-33
 - wait or loop DIAG-97
 - wait, communication OPER-102
 - waitlock
 - performance indicator PERF-23
 - WAITLOCK
 - example PERF-23
 - WAITLOCK counter OPER-59
 - waitlock hit ratio PERF-24
 - WANTLOCK, SHOW LOCK
 - WANTLOCK command OPER-108
 - warm start OPER-188
 - warm start of the application server SYVM-56, SYVM-50
 - warning
 - conditions APP-198
 - flags APP-198
 - wasting
 - DASD PERF-58
 - WHENEVER APP-12, APP-196, APP-199, DBA-131
 - WHENEVER statement SQLREF-347, SQLREF-348
 - WHERE clause
 - ALL keyword APP-78
 - ANY keyword APP-78
 - correlated subquery APP-80
 - description APP-30
 - EXISTS predicate APP-88
 - grouping considerations APP-72
 - IN predicate APP-79
 - join conditions APP-66
 - maximum number of predicts SQLREF-350
 - NOT EXISTS predicate APP-88
 - NOT IN predicate APP-79
 - of DELETE statement SQLREF-244
 - of SELECT INTO statement SQLREF-337
 - of subselect SQLREF-121, SQLREF-125
 - WHERE clause *(continued)*
 - of UPDATE statement SQLREF-340, SQLREF-341
 - subqueries APP-76
 - WHERE CURRENT OF clause
 - of DELETE statement SQLREF-244, SQLREF-245
 - of DELETE statement
 - Extended DECLARE CURSOR statement SQLREF-241
 - of UPDATE statement SQLREF-340, SQLREF-341
 - of UPDATE statement
 - Extended DECLARE CURSOR statement SQLREF-241
 - width displayed
 - changing
 - any column ISQL-45, ISQL-110
 - VARCHAR columns ISQL-133
 - WIDTH option
 - FORMAT command ISQL-45, ISQL-46
 - SET command ISQL-58
 - WITH CHECK OPTION APP-62
 - WITH CHECK OPTION clause
 - INSERT statement SQLREF-301
 - of CREATE VIEW statement SQLREF-233
 - UPDATE statement SQLREF-342
 - WITH clause APP-33
 - WITH clause
 - of DELETE statement SQLREF-245
 - of subselect SQLREF-135
 - of UPDATE statement SQLREF-341
 - WITH GRANT OPTION clause
 - of GRANT statement SQLREF-289, SQLREF-294, SQLREF-295
 - WITH RETURN
 - in DECLARE CURSOR statement SQLREF-240
 - without DISABLE option, FORCE command OPER-53
 - words, reserved
 - DBSU DBSU-111
 - SQL DBSU-111
 - WORK keyword
 - COMMIT statement SQLREF-183
 - ROLLBACK statement SQLREF-335
 - Work Unit Manager (WUM) OPER-160
 - Work Unit Manager (WUM)
 - component description DIAG-10
 - overview DIAG-10
 - work unit support DIAG-162
 - work units
 - accounting exit
 - CMS SYVM-261
 - work unit ID SYVM-256, SYVM-200
 - CMS APP-284, OPER-136, SYVM-366
 - CMS
 - accounting exit SYVM-342
 - supported operating systems SYVM-1
 - multiple OPER-136
 - using APP-284
 - VM/ESA features supported SYVM-1
 - working storage DIAG-42

- working storage residence priority
 - changing PERF-190
 - choosing PERF-201
 - understanding PERF-166
- working storage size PERF-217
- working storage size
 - improving performance PERF-198
 - management PERF-200
- workload PERF-13
- workload
 - considerations PERF-3
 - distributing PERF-75
 - production PERF-3
 - test PERF-3
 - throughput PERF-5
- WORKUNIT parameter of exec DBA-247,
DBA-255
- write counters OPER-59
- write-to-operator (WTO) messages
DBSU-223
- WRITES counter PERF-15
- writing asynchronously PERF-198
- writing clauses in order APP-73
- WUM (Work Unit Manager) OPER-160

X

- XC mode
 - CP directory statement PERF-178
 - database machine PERF-171
 - hardware PERF-175
 - SQL/DS directory PERF-200
 - verify PERF-186
- XCONFIG directory statement PERF-178
- XEDIT, as used with DB2 Server for VM
DBA-159
- XPCC conversations PERF-93

Y

- YEAR
 - function SQLREF-120
 - labeled duration SQLREF-71,
SQLREF-74
- YEARS
 - labeled duration SQLREF-71

Z

- zero SQLCODE
 - description APP-11, APP-196
- ZEROS option of FORMAT command
ISQL-44, ISQL-46
- ZONED data type DBSU-152, DBSU-174
- zoned input data
 - precision DBSU-152
 - scale DBSU-152
- zoned output DBSU-174

Notices

IBM may not offer the products, services, or features discussed in this document in all countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10594-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
Mail Station P300
522 South Road
Poughkeepsie, NY 12601-5400
U.S.A

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements, or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information may contain examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information may contain sample application programs in source language, which illustrates programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing, or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

Programming Interface Information

This book documents intended Programming Interfaces that allow the customer to write programs to obtain services of DB2 Server for VSE & VM.

Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, or other countries, or both:

AIX
APL2
C/370
CICS
CICS/ESA
CICS/VSE
CUA
DATABASE 2
DataPropagator
DB2
DFSMS/VM
DFSORT
Distributed Relational Database Architecture
DRDA
Enterprise Systems Architecture/390
IBM
Information Warehouse
Language Environment
MVS
Operating System/2
Operating System/400
OS/2
OS/400
QMF
RACF
S/390
SAA
SystemView
System/390
VM/ESA
VSE/ESA
VTAM

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Unix and Unix-based trademarks and logos are trademarks or registered trademarks of The Open Group.

Other company, product, and service names may be trademarks or service marks of others.

Contacting IBM

Before you contact DB2 customer support, check the product manuals for help with your specific technical problem.

For information or to order any of the DB2 Server for VSE & VM products, contact an IBM representative at a local branch office or contact any authorized IBM software remarketer.

If you live in the U.S.A., then you can call one of the following numbers:

- 1-800-237-5511 for customer support
- 1-888-426-4343 to learn about available service options

Product information

DB2 Server for VSE & VM product information is available by telephone or by the World Wide Web at <http://www.ibm.com/software/data/db2/vse-vm>

This site contains the latest information on the technical library, product manuals, newsgroups, APARs, news, and links to web resources.

If you live in the U.S.A., then you can call one of the following numbers:

- 1-800-IBM-CALL (1-800-426-2255) to order products or to obtain general information.
- 1-800-879-2755 to order publications.

For information on how to contact IBM outside of the United States, go to the IBM Worldwide page at <http://www.ibm.com/planetwide>

In some countries, IBM-authorized dealers should contact their dealer support structure for information.



File Number: S370/4300-50
Program Number: 5697-F42

Printed in USA

SC09-2890-03



Spine information:



DB2 Server for VSE & VM

Version 7 Release 5