AS 3968—1991
ISO/IEC 9075: 1989

Australian Standard®

Information processing systems—Database language SQL with integrity enhancement

STANDARDS AUSTRALIA

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PREFACE

This Standard was prepared by the Standards Australia Committee on Information Systems—Interconnection. It is identical with and has been reproduced from ISO/IEC 9075:1989, *Information processing systems—Database Language SQL with integrity enhancement.*

The Standard is one of a series of Open Systems Interconnection (OSI) Standards which are currently under development. Since OSI Standards are developmental, there may be some minor difficulties encountered in their implementation. For this reason, Standards Australia will be providing, through the OSI Help Desk, a service to coordinate and disseminate information concerning difficulties which are identified in using this Standard.

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For the purpose of this Australian Standard, the ISO/IEC text should be modified as follows:

(i) *Terminology* The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.

(ii) *References* The references to International Standards should be replaced by references to Australian Standards as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
1539	Programming Languages—FORTRAN	1486	Programming language FORTRAN
1989	Programming Languages—COBOL	1209	Programming language COBOL
6160	Programming Languages—PL/1	—	
7185	Programming Languages—Pascal	2580	Programming language Pascal

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Information processing systems—Database language SQL with integrity enhancement

1. Scope and field of application

This standard specifies the syntax and semantics of two database languages:

1) A schema definition language (SQL-DDL), for declaring the structures and integrity constraints of an SQL database.

2) A module language and a data manipulation language (SQL-DML), for declaring the database procedures and executable statements of a specific database application program.

This standard defines the logical data structures and basic operations for an SQL database. It provides functional capabilities for designing, accessing, maintaining, controlling, and protecting the database.

This standard provides a vehicle for portability of database definitions and application programs between conforming implementations.

This standard specifies two levels and a separate integrity enhancement feature. Level 2 is the complete SQL database language excluding the integrity enhancement feature. Level 1 is the subset of Level 2 defined in clause 9, "Levels" on page 99.

NOTE: *Additional SQL language is planned for later addenda to this standard. Major topics under consideration for such addenda include enhanced transaction management, specification of certain implementor-defined rules, enhanced character handling facilities, and support for national character sets.*

The integrity enhancement feature comprises a means of specifying:

1) referential constraints between tables, which have to be satisfied;

2) check constraints to be applied to the rows of a table; and,

3) a default value for a column when a row is inserted into a table.

Annexes to this standard specify embedded syntax for including SQL data manipulation language statements in an otherwise standard application program. Such embedded syntax is defined to be a shorthand notation for a standard application program in which the embedded SQL statements have been replaced with explicit "calls" of database procedures that contain the SQL statements.

This standard applies to implementations that exist in an environment that may include application programming languages, end-user query languages, report generator systems, data dictionary systems, program library systems, and distributed communication systems, as well as various tools for database design, data administration, and performance optimization.