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Part 15: Multi-dimensional arrays (SQL/MDA)

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Partie 15: Tableaux multi-dimensionnels (SQL/MDA)

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

This is the first edition of this document.

A list of all parts in the ISO/IEC 9075 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

NOTE 1 — The individual parts of multi-part standards are not necessarily published together. New editions of one or more parts may be published without publication of new editions of other parts.

Introduction

This document was developed in response to industry demand for the ability to store and manipulate data in the form of multidimensional arrays within databases managed using database language SQL.

The organization of this document is as follows:

1) Clause 1, “Scope”, specifies the scope of this document.

2) Clause 2, “Normative references”, identifies additional standards that, through reference in this document, constitute provisions of this document.

3) Clause 3, “Terms and definitions”, defines the notations and conventions used in this document.

4) Clause 4, “Concepts”, describes the concepts used in ISO/IEC 9075.

5) Clause 5, “The parts of ISO/IEC 9075”, augments Clause 5, “The parts of ISO/IEC 9075”, of ISO9075-1, by summarizing the content of this document, in terms of the concepts described in Clause 4, “Concepts”, of ISO9075-1.

6) Clause 6, “Concepts”, presents concepts used in the definition of multidimensional arrays.

7) Clause 7, “Lexical elements”, defines a number of lexical elements used in the definition of multidimensional arrays.

8) Clause 8, “Scalar expressions”, defines a number of scalar expressions used in the definition of multidimensional arrays.

9) Clause 9, “Query expressions”, defines the elements of the language that produce rows and tables of data as used in multidimensional arrays.

10) Clause 10, “Predicates”, defines the predicates used in the definition of multidimensional arrays.

11) Clause 11, “Additional common rules”, specifies the rules for assignments that retrieve multidimensional array data from or store multidimensional array data into SQL-data, and formation rules for set operations.

12) Clause 12, “Additional common elements”, defines additional common elements used in the definition of multidimensional arrays.

13) Clause 13, “Schema definition and manipulation”, defines facilities for creating and managing a schema.

14) Clause 14, “SQL-client modules”, defines SQL-client modules and externally-invoked procedures in the context of multidimensional arrays.

15) Clause 15, “Data manipulation”, defines the data manipulation statements.

16) Clause 16, “Dynamic SQL”, defines the facilities for executing SQL-statements dynamically in the context of multidimensional arrays.

17) Clause 17, “Embedded SQL”, defines the host language embeddings in the context of multidimensional arrays.

18) Clause 18, “Call-Level Interface specifications”, defines facilities for using SQL through a Call-Level Interface.

19) Clause 19, “Information Schema”, defines the Information and Definition Schema objects associated with multidimensional arrays.

20) Clause 20, “Definition Schema”, defines base tables on which the viewed tables containing schema information depend.

21) Clause 21, “Status codes”, defines SQLSTATE values related to multidimensional arrays.

22) Clause 22, “Conformance”, defines the criteria for conformance to this document.

23) Annex A, “SQL Conformance Summary”, is an informative Annex. It summarizes the conformance requirements of the SQL language.

24) Annex B, “Implementation-defined elements”, is an informative Annex. It lists those features for which the body of this document states that the syntax, the meaning, the returned results, the effect on SQL-data and/or schemas, or any other behavior is partly or wholly implementation-defined.

25) Annex C, “Implementation-dependent elements”, is an informative Annex. It lists those features for which the body of this document states that the syntax, the meaning, the returned results, the effect on SQL-data and/or schemas, or any other behavior is partly or wholly implementation-dependent.

26) Annex D, “Incompatibilities with ISO/IEC 9075:2011”, is an informative Annex. It lists incompatibilities with the previous version of this document.

27) Annex E, “SQL feature taxonomy”, is an informative Annex. It identifies features of the SQL language specified in this document by an identifier and a short descriptive name. This taxonomy is used to specify conformance.

In the text of this document, Clauses and Annexes begin new odd-numbered pages, and in Clause 7, “Lexical elements”, through Clause 22, “Conformance”, Subclauses begin new pages. Any resulting blank space is not significant.

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Information technology database languages — SQL —

Part 15:
Multi-dimensional arrays (SQL/MDA)

1 Scope

This document defines ways in which Database Language SQL can be used in conjunction with multidimensional arrays.

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2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 9075-1:2016, *Information technology — Database languages — SQL — Part 1: Framework (SQL/Framework)*.

ISO/IEC 9075-2:2016, *Information technology — Database languages — SQL — Part 2: Foundation (SQL/Foundation)*.

ISO/IEC 9075-3:2016, *Information technology — Database languages — SQL — Part 3: Call-Level Interface (SQL/CLI)*.

ISO/IEC 9075-11:2016, *Information technology — Database languages — SQL — Part 11: Information and Definition Schemas (SQL/Schemata)*.

Multipurpose Internet Mail Extensions (MIME), Part Two: Media Types
http://tools.ietf.org/html/rfc2046

The JavaScript Object Notation (JSON) Data Interchange Format
http://tools.ietf.org/html/rfc7159