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**Information technology — Database  
languages — SQL —**

**Part 10:  
Object language bindings (SQL/OLB)**

*Technologies de l'information — Langages de base de données —  
SQL —*

*Partie 10: Liaisons de langage objet (SQL/OLB)*

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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 32, *Data management and interchange*.

This fourth edition of ISO/IEC 9075-10 cancels and replaces the third edition (ISO/IEC 9075-10:2008), which has been technically revised. It also incorporates Technical Corrigendum ISO/IEC 9075-10:2008/Cor.1:2010.

A list of all parts in the ISO/IEC 9075 series, published under the general title *Information technology — Database languages — SQL*, can be found on the ISO website.

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

## Introduction

The organization of this Part of this International Standard is as follows:

- 1) **Clause 1, “Scope”**, specifies the scope of this part of ISO/IEC 9075.
- 2) **Clause 2, “Normative references”**, identifies additional standards and publically-available specifications that, through reference in this part of ISO/IEC 9075, constitute provisions of this part of ISO/IEC 9075.
- 3) **Clause 3, “Definitions, notations, and conventions”**, defines the notations and conventions used in this part of ISO/IEC 9075.
- 4) **Clause 4, “Concepts”**, presents concepts used in the definition of the Object Language Bindings.
- 5) **Clause 5, “Lexical elements”**, defines the lexical elements of the language.
- 6) **Clause 6, “Scalar expressions”**, defines the elements of the language that produce scalar values.
- 7) **Clause 7, “Additional common elements”**, defines additional language elements that are used in various parts of the language.
- 8) **Clause 8, “Embedded SQL”**, defines the host language embeddings.
- 9) **Clause 9, “SQLJ reserved names”**, defines the reserved names for SQLJ.
- 10) **Clause 10, “Common subelements”**, defines the commonly used subelements for SQLJ.
- 11) **Clause 11, “<SQLJ specific clause> and contents”**, defines the syntax and rules for SQLJ constructs.
- 12) **Clause 12, “Package sqlj.runtime”**, specifies the SQLJ runtime package.
- 13) **Clause 13, “Package sqlj.runtime.profile”**, specifies the SQLJ runtime profile package.
- 14) **Clause 14, “sqlj.runtime.profile.util.ProfileCustomizer”**, specifies the SQLJ profile customizer class.
- 15) **Clause 16, “Status codes”**, defines SQLSTATE values related to Object Language Bindings.
- 16) **Clause 17, “Conformance”**, defines the criteria for conformance to this part of ISO/IEC 9075.
- 17) **Annex A, “SQL Conformance Summary”**, is an informative Annex. It summarizes the conformance requirements of the SQL language.
- 18) **Annex B, “Implementation-defined elements”**, is an informative Annex. It lists those features for which the body of this part of ISO/IEC 9075 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.
- 19) **Annex C, “Implementation-dependent elements”**, is an informative Annex. It lists those features for which the body of this part of ISO/IEC 9075 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.
- 20) **Annex D, “Deprecated features”**, is an informative Annex. It lists features that the responsible Technical Committee intend will not appear in a future revised version of this part of ISO/IEC 9075.
- 21) **Annex E, “Incompatibilities with ISO/IEC 9075:2008”**, is an informative Annex. It lists incompatibilities with the previous version of this part of ISO/IEC 9075.

- 22) [Annex F, “SQL feature taxonomy”](#), is an informative Annex. It identifies features of the SQL language specified in this part of ISO/IEC 9075 by an identifier and a short descriptive name. This taxonomy is used to specify conformance.
- 23) [Annex G, “Defect reports not addressed in this edition of this part of ISO/IEC 9075”](#), is an informative Annex. It describes the Defect Reports that were known at the time of publication of this part of this International Standard. Each of these problems is a problem carried forward from the previous edition of ISO/IEC 9075. No new problems have been created in the drafting of this edition of this International Standard.

In the text of this part of ISO/IEC 9075, Clauses and Annexes begin new odd-numbered pages. Any resulting blank space is not significant.

All Clauses of this part of ISO/IEC 9075 are normative.

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**Information technology — Database languages — SQL —**

Part 10:

**Object Language Bindings (SQL/OLB)****1 Scope**

ISO/IEC 9075-2 specifies embedded SQL for the programming languages: Ada, C, COBOL, Fortran, MUMPS, Pascal, and PL/I. This part of ISO/IEC 9075 defines similar features of Database language SQL that support embedding of SQL-statements into programs written in the Java™ programming language (Java is a registered trademark of Sun Microsystems, Inc.). The embedding of SQL into Java is commonly known as “SQLJ”. This part of ISO/IEC 9075 specifies the syntax and semantics of SQLJ, as well as mechanisms to ensure binary portability of resulting SQLJ applications. In addition, it specifies a number of Java packages and their contained classes (including methods).

Throughout this part of ISO/IEC 9075, the terms “SQLJ” and “SQL/OLB” are used synonymously.

NOTE Additional explanatory material (non-normative) about certain facilities defined in ISO/IEC 9075-2 can be found in ISO/IEC TR 19075-3.

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## 2 Normative references

The following referenced documents are indispensable for the application 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.

### 2.1 ISO and IEC standards

[ISO9075-1] ISO/IEC 9075-1:2016, *Information technology — Database languages — SQL — Part 1: Framework (SQL/Framework)*.

[ISO9075-2] ISO/IEC 9075-2:2016, *Information technology — Database languages — SQL — Part 2: Foundation (SQL/Foundation)*.

### 2.2 Other international standards

[Unicode] The Unicode Consortium, *The Unicode Standard*. (Information about the latest version of the Unicode standard can be found by using the "Latest Unicode Version" link on the "Enumerated Versions of The Unicode Standard" page.)

<http://www.unicode.org/versions/enumeratedversions.html>

[JLS] *The Java™ Language Specification, Java SE 7 Edition*.

<http://docs.oracle.com/javase/specs/jls/se7/jls7.pdf>.

[JDBC] *JDBC™ 4.1 Specification*

[http://download.oracle.com/otn-pub/jcp/jdbc-4\\_1-mrel-spec/-jdbc4.1-fr-spec.pdf](http://download.oracle.com/otn-pub/jcp/jdbc-4_1-mrel-spec/-jdbc4.1-fr-spec.pdf).

[JNDI] *Java Naming and Directory Interface™*, Sun Microsystems, Inc. <http://java.sun.com/-j2se/1.5.0/docs/guide/jndi/index.html>.

[JavaBeans] *The JavaBeans™ 1.01 Specification*

<http://java.sun.com/products/javabeans/docs/spec.html>