



INTERNATIONAL STANDARD ISO/IEC 9075-1:1999
ISO/IEC 9075-2:1999
ISO/IEC 9075-3:1999
ISO/IEC 9075-4:1999
ISO/IEC 9075-5:1999

TECHNICAL CORRIGENDUM 1

Published 2000-12-15

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION
INTERNATIONAL ELECTROTECHNICAL COMMISSION • МЕЖДУНАРОДНАЯ ЭЛЕКТРОТЕХНИЧЕСКАЯ КОМИССИЯ • COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

Information technology — Database languages — SQL —

Part 1: Framework (SQL/Framework)

Part 2: Foundation (SQL/Foundation)

Part 3: Call-Level Interface (SQL/CLI)

Part 4: Persistent Stored Modules (SQL/PSM)

Part 5: Host Language Bindings (SQL/Bindings)

TECHNICAL CORRIGENDUM 1

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

Partie 1: Charpente (SQL/Charpente)

Partie 2: Fondations (SQL/Fondations)

Partie 3: Interface de niveau d'appel (SQL/CLI)

Partie 4: Modules stockés persistants (SQL/PSM)

Partie 5: Liants de langage d'hôte (SQL/Liants)

RECTIFICATIF TECHNIQUE 1

ITeh STANDARD PREVIEW
(standards.iteh.ai)
ISO/IEC 9075-4:1999/Cor 1:2000
<https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000>

Technical Corrigendum 1 to parts 1 to 5 of International Standard ISO/IEC 9075:1999 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

Statement of purpose for rationale:

A statement indicating the rationale for each change to ISO/IEC 9075 is included. This is to inform the users of that standard as to the reason why it was judged necessary to change the original wording. In many cases the reason is editorial or to clarify the wording; in some cases it is to correct an error or an omission in the original wording.

Notes on numbering:

Where this Corrigendum introduces new Syntax, Access, General and Conformance Rules, the new rules have been numbered as follows:

Rules inserted between, for example, Rules 7) and 8) are numbered 7.1), 7.2), etc. [or 7) a.1), 7) a.2), etc.].

Those inserted before Rule 1) are numbered 0.1), 0.2), etc.

Where this Corrigendum introduces new subclauses, the new subclauses have been numbered as follows:

Subclauses inserted between, for example, subclause 4.3.2 and 4.3.3 are numbered 4.3.2a, 4.3.2b, etc.

Those inserted before, for example, 4.3.1 are numbered 4.3.0, 4.3.0a, etc.

ICS 35.060

Ref. No. ISO/IEC 9075 (parts 1 to 5):1999/Cor.1:2000(E)

© ISO/IEC 2000 – All rights reserved

Printed in Switzerland

	Page
ISO/IEC 9075-1:1999	
Database Languages - SQL-Part 1:Framework	9
4.8.2.3 Locators	9
4.11.2 SQL-statements classified by function	9
5.3.3 SQL-statements specified in ISO/IEC 9075-2	9
5.5.1 SQL-statements specified in ISO/IEC 9075-4	9
5.6.5.1 Additional functional classes of SQL-statements	10
6.2.5 Relationships of incremental parts to ISO/IEC 9075-2, Foundation	10
Annex B SQL Packages	13
Annex B.9 SQL/MM Support	13
ISO/IEC 9075-2:1999	
Database Languages - SQL-Part 2:Foundation	15
3.1.1 Definitions taken from ISO/IEC 10646	15
3.1.2 Definitions taken from Unicode	15
3.1.5 Definitions provided in Part 2	15
4.1 Data types	17
4.2.1 Character strings and collating sequences	19
4.2.4 Named character sets	19
4.3.1 Binary string comparison	20
4.4.1 Bit string comparison and assignment	20
4.7.1 Datetimes	20
4.7.3 "Operations involving datetimes and intervals"	21
4.8 User-defined types	21
4.8.1 Observers and mutators	22
4.8.2 Constructors	22
4.8.4 User-defined type comparison and assignment	23
4.10 Reference types	23
4.13 Data conversions	24
4.16 Tables	24
4.16.3 Operations involving tables	25
4.18.1 General rules and definitions	25
4.18.9 Known functional dependencies in the result of <having clause>	26
4.20 SQL-schemas	26
4.21 SQL-client modules	26
4.23 SQL-invoked routines	26
4.24 Built-in functions	29
4.25 SQL-paths	29
4.26.4 Locators	30
4.30.1 Classes of SQL-statements	30
4.30.2 SQL-statements classified by functions	30
4.30.3 SQL-statements and transaction states	31
4.30.4 SQL-statement atomicity	32
4.31.1 Authorization identifiers	32
4.34.1 Execution contexts	32
4.35.2 Execution of triggers	33
5.2 <token> and <separator>	33
5.3 <literal>	36
5.4 Names and identifiers	36
6.1 <data type>	37
6.3 <value specification> and <target specification>	37
6.5 <identifier chain>	38
6.11 <method invocation>	39

6.16 <set function specification>	40
6.18 <string value function>	41
6.20 <interval value function>	45
6.22 <cast specification>	45
6.23 <value expression>	47
6.24 <new specification>	48
6.25 <subtype treatment>	49
6.26 <numeric value expression>	49
6.27 <string value expression>	50
6.30 <boolean value expression>	51
7.1 <row value constructor>	52
7.3 <table value constructor>	52
7.6 <table reference>	53
7.7 <joined table>	57
7.8 <where clause>	57
7.9 <group by clause>	57
7.10 <having clause>	64
7.11 <query specification>	65
7.12 <query expression>	66
8.2 <comparison predicate>	66
8.3 <between predicate>	67
8.4 <in predicate>	68
8.6 <similar predicate>	68
8.8 <quantified comparison predicate>	69
8.10 <unique predicate>	69
8.11 <match predicate>	70
8.12 <overlaps predicate>	70
8.13 <distinct predicate>	70
9.0 Determination of identical values	71
9.1 Retrieval assignment	72
9.3 Data types of results of aggregations	72
10.4 <routine invocation>	73
10.5 <privileges>	77
10.6 <character set specification>	78
10.7 <specific routine designator>	78
10.12 Execution of triggers	80
10.13 Execution of array-returning functions	81
11.1 <schema definition>	82
11.2 <drop schema statement>	83
11.3 <table definition>	83
11.4 <column definition>	85
11.7 <unique constraint definition>	85
11.8 <referential constraint definition>	86
11.17 <drop column definition>	86
11.21 <view definition>	86
11.30 <character set definition>	87
11.31 <drop character set statement>	88
11.38 <trigger definition>	88
11.40 <user-defined type definition>	89
11.41 <attribute definition>	97
11.43 <add attribute definition>	98
11.44 <drop attribute definition>	98
11.45 <add original method specification>	98
11.46 <add overriding method specification>	102
11.47 <drop method specification>	104

ITeH STANDARD PREVIEW
(standards.iteh.ai)

11.48 <drop data type statement>	108
11.49 <SQL-invoked routine>	108
11.50 <alter routine statement>	114
11.51 <drop routine statement>	114
11.52 <user-defined cast definition>	115
11.54 <user-defined ordering definition>	116
11.55 <drop user-defined ordering statement>	117
11.56 <transform definition>	119
11.57 <drop transform statement>	119
12.2 <grant privilege statement>	119
12.4 <select statement: single row>	120
12.6 <revoke statement>	120
13.1 <SQL-client module definition>	121
13.2 <module name clause>	121
13.3 <externally-invoked procedure>	121
13.5 <SQL procedure statement>	121
14.1 <declare cursor>	122
14.3 <fetch statement>	124
14.5 <select statement: single row>	124
14.6 <delete statement: positioned>	125
14.8 <insert statement>	126
14.9 <update statement: positioned>	127
14.10 <update statement: searched>	127
14.11 <temporary table declaration>	128
14.18 Effect of inserting a table into a derived table	128
15.2 <return statement>	128
16.4 <savepoint statement>	128
16.5 <release savepoint statement> ISO/IEC 9075-4:1999/Cor.1:2000	128
16.7 <rollback statement> standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45e4-83e8-2a3fe413e15/iso-iec-9075-4-1999-cor-1-2000	129
19.1 <get diagnostics statement> standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45e4-83e8-2a3fe413e15/iso-iec-9075-4-1999-cor-1-2000	129
20.11 ATTRIBUTES view	130
20.18 COLUMNS view	131
20.19 CONSTRAINT_COLUMN_USAGE view	132
20.21 DATA_TYPE_PRIVILEGES view	133
20.26 DOMAINS view	133
20.27 ELEMENT_TYPES view	134
20.29 FIELDS view	134
20.31 METHOD_SPECIFICATION_PARAMETERS view	135
20.32 METHOD_SPECIFICATIONS view	135
20.33 PARAMETERS view	136
20.34 REFERENCED_TYPES view	136
20.38 ROLE_TABLE_GRANTS view	137
20.56 TABLES view	137
20.62 TRIGGERS view	138
20.68 VIEWS view	140
20.69 Short name views	141
21.3 EQUAL_KEY_DEGREES assertion	143
21.6 ASSERTIONS base table	144
21.7 ATTRIBUTES base table	144
21.8 CHARACTER_SETS base table	144
21.12 COLLATIONS base table	145
21.14 COLUMNS base table	145
21.15 DATA_TYPE_DESCRIPTOR base table	146
21.16 DIRECT_SUPERTABLES	150
21.23 METHOD_SPECIFICATION_PARAMETERS	150

21.24 METHOD_SPECIFICATIONS base table	151
21.25 PARAMETERS base table	152
21.33 ROUTINES base table	152
21.34 SCHEMATA base table	152
21.35 SQL_FEATURES base table	153
21.36 SQL_IMPLEMENTATION_INFO base table	153
21.38 SQL_SIZING base table	153
21.39 SQL_SIZING_PROFILES base table	154
21.43 TABLES base table	154
21.44 TRANSFORMS base table	155
21.45 TRANSLATIONS base table	155
21.47 TRIGGER_COLUMN_USAGE base table	155
21.49 TRIGGERS base table	156
21.52 USER_DEFINED_TYPES base table	157
21.56 VIEWS base table	158
22.1 SQLSTATE	158
22.3 SQL Multimedia and Application Package SQLSTATE Subclasses	158
23.1 General conformance requirements	158
Annex A SQL conformance summary	158
Annex B Implementation-defined elements	164
Annex C Implementation-dependent elements	165
Annex E Incompatibilities with ISO/IEC 9075:1992 and ISO/IEC 9075-4:1996	166
Annex F SQL feature and package taxonomy	167
ITeH STANDARD PREVIEW	
(standards.iteh.ai)	
ISO/IEC 9075-3:1999	
Database Languages - SQL-Part 3: Call Level Interface	169
3.1.1. Definitions provided in Part 3	169
3.3.2.1 Clause, subclause and table relationships	169
4.4.5 Connection attributes	170
5.1 <CLI routine>	170
5.3 Description of CLI item descriptor areas	170
5.5 Implicit DESCRIBE USING clause	171
5.11 Deferred parameter check	171
5.13 Description of CLI item descriptor areas	171
5.14 Other tables associated with CLI	172
5.15 Data type correspondences	173
6.5 BindCol	174
6.6 BindParameter	174
6.9 ColAttribute	174
6.10 ColumnPrivileges	175
6.11 Columns	175
6.12 Connect	175
6.14 DataSources	176
6.15 DescribeCol	176
6.17 EndTran	177
6.18 Error	178
6.19 ExecDirect	178
6.21 Fetch	178
6.22 FetchScroll	179
6.23 ForeignKeys	179
6.28 GetConnectAttr	180
6.29 GetCursorName	180
6.30 GetData	180
6.32 GetDescRec	180
6.34 GetDiagRec	181

6.36 GetFeatureInfo	181
6.40 GetParamData	181
6.50 Prepare	182
6.51 PrimaryKeys	182
6.54 SetConnectAttr	182
6.55 SetCursorName	182
6.56 SetDescField	183
6.60 SpecialColumns	183
6.62 TablePrivileges	183
6.63 Tables	184
A.1 C header file SQLCLI.H	184
A.2 COBOL library item SQLCLI	185
ISO/IEC 9075-4:1999	
Database Languages - SQL-Part 4:Persistent Stored Modules	187
3.3.2.1 Clause, Subclause, and Table relationships	187
4.8 Cursors	187
4.10 SQL-statements	187
4.10.1 SQL-statements classified by function	188
5.1 <token> and <separator>	188
6.2 <identifier chain>	188
9.18 <SQL-server module definition>	189
11.2 <SQL procedure statement>	189
12.2 <fetch statement>	189
13.1 <compound statement>	190
13.6 <resignal statement>	190
13.7 <if statement>	190
15.1 <embedded SQL host program>	191
16.1 <get diagnostics statement>	191
16.3 <resignal statement>	191
17.2 MODULE_PRIVILEGES view	191
17.4 MODULES view	192
Annex A SQL Conformance Summary	192
Annex E Incompatibilities with ISO/IEC 9075:1992	193
Annex F SQL Feature Taxonomy	193
ISO/IEC 9075-5:1999	
Database Languages - SQL-Part 5:Bindings	195
4.6.1 Classes of SQL-statements	195
4.6.4 Embeddable SQL-statement	195
4.6.5 Preparable and immediately executable SQL-statements	195
4.6.6 Directly executable SQL-statements	196
5.1 <token> and <separator>	196
10.5 <SQL-invoked routine>	197
11.2 Calls to an <externally-invoked procedure>	197
11.3 <SQL procedure statement>	197
12.0 <fetch statement>	197
12.1 <select statement: single row>	198
12.2 <free locator statement>	198
14.3 <set names statement>	199
15.1 Description of SQL descriptor areas	199
15.6 <prepare statement>	199
15.8 <describe statement>	200
15.13 <dynamic declare cursor>	200
15.14 <allocate cursor statement>	200

STANDARD PREVIEW
(standards.iteh.ai)

16.1 <embedded SQL host program>	201
16.3 <embedded SQL Ada program>	203
16.4 <embedded SQL C program>	204
16.5 <embedded SQL COBOL program>	204
16.6 <embedded SQL FORTRAN program>	205
16.7 <embedded SQL MUMPS program>	206
16.8 <embedded SQL Pascal program>	206
16.9 <embedded SQL PL/I program>	207
19.1 <get diagnostics statement>	208
20.1 SQLSTATE	208
Annex A SQL Conformance Summary	209
Annex E Incompatibilities with ISO/IEC 9075:1992	211

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/IEC 9075-4:1999/Cor 1:2000](https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000)

[https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-
eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000](https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/IEC 9075-4:1999/Cor 1:2000

[https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-
eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000](https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000)

ISO/IEC 9075-1:1999

Database Languages - SQL-Part 1:Framework

4.8.2.3 Locators

1. *Rationale: Correct the specification of which locators are marked invalid when an SQL-transaction ends.*

Replace the 8th paragraph with:

A non-holdable locator remains valid until the end of the SQL-transaction in which it was generated, unless it is explicitly made invalid by the execution of a <free locator statement> or a <rollback statement> that specifies a <savepoint clause> is executed before the end of that SQL-transaction if the locator was generated subsequent to the establishment of the savepoint identified by the <savepoint clause>.

Replace 9th paragraph with:

A holdable locator may remain valid beyond the end of the SQL-transaction in which it is generated. A holdable locator becomes invalid whenever a <free locator statement> identifying that locator is executed or the SQL-transaction in which it is generated or any subsequent SQL-transaction is rolled back. All locators remaining valid at the end of an SQL-session are marked invalid when that SQL-session terminates.

4.11.2 SQL-statements classified by function

ISO/IEC 9075-4:1999/Cor 1:2000

1. *Rationale: Correct the classification of SQL-statements.*

Add a list element to the 1st paragraph:

- SQL-dynamic statements, which support the preparation and execution of dynamically generated SQL-statements, and obtaining information about them.

5.3.3 SQL-statements specified in ISO/IEC 9075-2

1. *Rationale: Correct the classification of SQL-statements.*

Replace the 4th bullet of the 1st paragraph with:

- Two SQL-control statements (CALL and RETURN), which can be used to invoke a procedure and specify a value to be returned by a function.

5.5.1 SQL-statements specified in ISO/IEC 9075-4

1. *Rationale: Correct the classification of SQL-statements.*

Replace the 1st bullet of the 1st paragraph with:

- Additional SQL-control statements which may be used to control the execution of an SQL routine.

2. *Rationale: Correct the classification of SQL-statements.*

Delete the 2nd bullet from the 1st paragraph

3. *Rationale: Correct the classification of SQL-statements.*

Replace the 3rd bullet of the 1st paragraph with:

- Additional SQL-diagnostics statements, which may be used to signal exceptions.

4. *Rationale: Correct the classification of SQL-statements.*

Add the following bullets to the 1st paragraph:

- SQL-control declaration statements which may be used to declare variables and exception handlers.
- Additional SQL-schema statements, which may be used to create and drop modules.

5.6.5.1 Additional functional classes of SQL-statements

1. *Rationale: Correct the classification of SQL-statements.*

Replace the bullet of the 1st paragraph with:

- SQL-dynamic statements, which support the preparation and execution of dynamically generated SQL-statements, and obtaining information about them.

2. *Rationale: Correct the classification of SQL-statements.*
<https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000>

Replace the 2nd paragraph with:

A number of SQL-data statements are also added, most of which contain the word "dynamic" in their names. They are not to be confused with SQL-dynamic statements.

6.2.5 Relationships of incremental parts to ISO/IEC 9075-2, Foundation

1. *Rationale: To permit the modification of Parts 1, 3 and 10 as well as Parts 2 and 5 in other Parts, since Part 1 needs to be updated by the Conformance clauses of other Parts and Parts 3 and 10 are analogous in functionality to Part 5.*

Replace the entire Subclause with:

6.2.5 Relationships of incremental parts within ISO/IEC 9075

Parts of ISO/IEC 9075 other than this part of ISO/IEC 9075 and ISO/IEC 9075-2 depend on ISO/IEC 9075-1, ISO/IEC 9075-2 and its Technical Corrigenda and are referenced as incremental parts. Each incremental part is to be used as though it were merged with the text of ISO/IEC 9075. This Subclause describes the conventions used to specify the merger.

The merger described also accounts for the Technical Corrigenda that have been published to correct ISO/IEC 9075. This accommodation is typically indicated by the presence of a phrase like "in the Technical Corrigenda" or "in the TC".

6.2.5.1 New and modified Clauses, Subclauses, and Annexes

Where a Clause (other than Clause 1, "Scope", and Clause 2, "Normative references"), Subclause, or Annex in any incremental part of ISO/IEC 9075 has a name identical to a Clause, Subclause, or Annex in ISO/IEC 9075-1, ISO/IEC 9075-2, ISO/IEC 9075-3, ISO/IEC 9075-5 or ISO/IEC 9075-10 (unless the incremental part is itself ISO/IEC 9075-3, ISO/IEC 9075-5 or ISO/IEC 9075-10), it supplements the Clause, Subclause, or Annex, respectively, in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, regardless of whether or not the number or letter of the Clause, Subclause, or Annex corresponds. It typically does so by adding or replacing paragraphs, Format items, or Rules.

In each incremental part, Table 1, "Clause, Subclause, and Table relationships", identifies the relationships between each Clause, Subclause, and Annex in that incremental part and the corresponding Clause, Subclause, or Annex in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10.

Where a Clause, Subclause, or Annex in an incremental part has a name that is not identical to the name of some Clause, Subclause, or Annex in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, it provides language specification particular to that part. A Subclause that is part of a Clause or Subclause identified as new is inherently new and is not marked.

The Clauses, Subclauses, and Annexes in each incremental part appear in the order in which they are intended to appear in the merged document. In the absence of other explicit instructions regarding its placement, any new Clause, Subclause, or Annex is to be positioned as follows: Locate the prior Clause, Subclause, or Annex in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 whose name is identical to the name of a corresponding Clause, Subclause, or Annex that appears in the incremental part of ISO/IEC 9075. The new Clause, Subclause, or Annex shall immediately follow that Clause, Subclause, or Annex. If there are multiple new Clauses, Subclauses, or Annexes with no intervening Clause, Subclause, or Annex that modifies an existing Clause, Subclause, or Annex, then those new Clauses, Subclauses, or Annexes appear in order, following the prior Clause, Subclause, or Annex whose name was matched.

When an incremental part performs a modification to the Clause, Subclause, or Annex in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, then the modifications are applied in the following sequence:

- 1) All modifications to ISO/IEC 9075-1 from the incremental part.
- 2) All modifications to ISO/IEC 9075-3 from the incremental part.
- 3) All modifications to ISO/IEC 9075-5 from the incremental part.
- 4) All modifications to ISO/IEC 9075-10 from the incremental part.
- 5) All modifications to ISO/IEC 9075-2 from ISO/IEC 9075-3, including all modifications that were added, augmented, or replaced as a result of step 2.
- 6) All modifications to ISO/IEC 9075-2 from ISO/IEC 9075-5, including all modifications that were added, augmented, or replaced as a result of step 2.
- 7) All modifications to ISO/IEC 9075-2 from ISO/IEC 9075-10, including all modifications that were added, augmented, or replaced as a result of step 2.
- 8) All modifications to ISO/IEC 9075-2 from the incremental part. Note that modifications in this third step may augment or replace modifications applied as a result of steps 2, 3 and 4.

Modifications to ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 by more than one incremental part do not interact. The modifications made by an incremental part only have influence on the language specification of that part and those specifications are not influenced by modifications made by any other incremental part.

6.2.5.2 New and modified Format items

In a modified Subclause, a Format item that defines a BNF non-terminal symbol (that is, the BNF non-terminal symbol appears on the left-hand side of the ::= mark) either modifies a Format item whose definition appears in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, or replaces a Format item whose definition appears in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, or defines a new Format item that does not have a definition at all in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10. Those Format items in the incremental part that modify a Format item whose definition appears in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 are identified by the existence of a “Format comment” such as:

```
<modified item> ::=
    !! All alternatives from ISO/IEC 9075-2
    | <new alternative>
```

By contrast, Format items that completely replace Format items in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 have BNF non-terminal symbols identical to BNF non-terminal symbols of Format items in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, but do not state that they include any alternatives from ISO/IEC 9075-2 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10.

New Format items that have no correspondence to any Format item in ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 are not distinguished in the incremental part.

Format items in new Subclauses are unmarked.

6.2.5.3 New and modified paragraphs and rules

In modified Subclauses, each paragraph or Rule is marked to indicate whether it is a modification of a paragraph or Rule in ISO/IEC 9075-1, ISO/IEC 9075-2, ISO/IEC 9075-3, ISO/IEC 9075-5 or ISO/IEC 9075-10 or is a new paragraph or Rule added by this incremental part.

Modifications of paragraphs or Rules in ISO/IEC 9075-2 are identified by the inclusion of an indicative phrase enclosed in a box.

Replace the 5th paragraph means that the following text is to replace the fifth paragraph of the corresponding Subclause in ISO/IEC 9075-2.

Replace SR6) b) ii) means that the following text is to replace Syntax Rule 6)b)ii) of the corresponding Subclause in ISO/IEC 9075-2.

Augments SR3) means that the following text is to extend or enhance Syntax Rule 3). In most instances, the augmentation is the addition of a new alternative meant to support new syntax. New paragraphs or Rules in an incremental part is marked to indicate where it is to be inserted.

Insert before 2nd paragraph means that the following text is to be read as though it were inserted immediately before the second paragraph of the corresponding Subclause in ISO/IEC 9075-2.

Insert before GR4) means that the following text is to be read as though it were inserted immediately before General Rule 4) of the corresponding Subclause in ISO/IEC 9075-2.

If no specific insertion point is indicated, as in Insert this paragraph or Insert this GR, then the following text is to be read as though it were appended at the end of the appropriate section (the General Rules, for example) of the corresponding Subclause in ISO/IEC 9075-2.

Modifications of paragraphs or Rules in ISO/IEC 9075-1 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 are identified in the same way as for modifications of ISO/IEC 9075-2, except that “in Part 1”, “in Part 3”, “in Part 5” or “in Part 10” is appended to the indicative phrase, as appropriate.

In such indications, “SR” is used to mean “Syntax Rule”, “AR” is used to mean “Access Rule”, “GR” is used to mean “General Rule”, and “CR” is used to mean “Conformance Rule”. “Desc.” is used to mean “Description” and “Func.” is used to mean “Function”.

All paragraphs, Format items, and Rules in new Clauses or Subclauses are also new and are therefore unmarked.

6.2.5.4 New and modified tables

If the name of a table in an incremental part is identical to that of a table in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, then the table supplements the table in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, typically by adding or replacing one or more table entries; otherwise, it is a new table.

In each incremental part, there is a table, Table 1, "Clause, Subclause, and Table relationships", that identifies the relationships between tables in that incremental part and the corresponding tables in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10.

The rows in modified tables are generally new rows to be effectively inserted into the corresponding table in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10, though in rare cases a row already in a table in ISO/IEC 9075-1 and/or ISO/IEC 9075-2 and/or ISO/IEC 9075-3 and/or ISO/IEC 9075-5 and/or ISO/IEC 9075-10 is effectively replaced by a row in the table in the incremental part. Such replacement is required wherever the value in the first column of the corresponding table is the same.

ISO/IEC 9075-4:1999/Cor 1:2000

[https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-](https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000)

Annex B SQL Packages [ee3fe413e15/iso-iec-9075-4-1999-cor-1-2000](https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000)

1. *Rationale: Withdraw the package called “OLAP facilities”, which is being superseded by the package called “OLAP” as defined in Amendment 1 of ISO/IEC 9075:1999.*

In Table 2 — SQL Packages, delete line 3:

Delete the entire Annex B.3, “OLAP facilities”.

Annex B.9 SQL/MM Support

1. *Rationale: The package “SQL/MM support” is no longer needed since it is now defined explicitly in ISO/IEC 13249-1.*

Delete the entire Annex B.9, “SQL/MM support”.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/IEC 9075-4:1999/Cor 1:2000

[https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-
eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000](https://standards.iteh.ai/catalog/standards/sist/992e6d8e-4039-45c4-83e8-eea3fe413e15/iso-iec-9075-4-1999-cor-1-2000)

ISO/IEC 9075-2:1999 Database Languages - SQL-Part 2:Foundation

3.1.1 Definitions taken from ISO/IEC 10646

1. *Rationale: Remove unused definitions.*

Replace the Subclause with:

This part of ISO/IEC 9075 makes use of the following terms defined in ISO/IEC 10646:

- a) character

3.1.2 Definitions taken from Unicode

1. *Rationale: Remove unused definitions.*

Replace the Subclause with:

This part of ISO/IEC 9075 makes use of the following terms defined in The Unicode Standard:

- a) control character

3.1.5 Definitions provided in Part 2

1. *Rationale: Clarify the definition of “assignment”*

Replace item b) with:

- b) **assignment:** The operation whose effect is to ensure that the value at a site *T* (known as the target) is identical to a given value *S* (known as the source). Assignment is frequently indicated by the use of the phrase “*T* is set to *S*” or “the value of *T* is set to *S*”.

2. *Rationale: Clarify the definition of “comparable”*

Replace item i) with:

- i) **comparable** (of a pair of values): Capable of being compared, according to the rules of Subclause 8.2 “<comparison predicate>”. In most, but not all, cases the values of a data type can be compared one with another. For the specification of comparability of individual data types, see Subclauses 4.2 to 4.11. Further, if a value of one data type can be compared with a value of another data type, then the two data types are said to be (mutually) comparable, see Subclause 4.12, “Type conversions and mixing of data types”.