

This is a preview of "ISO/IEC 13249-2:2003". [Click here to purchase the full version from the ANSI store.](#)

Second edition
2003-11-01

Information technology — Database languages — SQL multimedia and application packages —

Part 2: Full-Text

*Technologies de l'information — Langages de bases de données —
Multimédia SQL et paquetages d'application —*

Partie 2: Texte complet

Reference number
ISO/IEC 13249-2:2003(E)



© ISO/IEC 2003

This is a preview of "ISO/IEC 13249-2:2003". [Click here to purchase the full version from the ANSI store.](#)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO/IEC 2003

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents	Page
Foreword.....	viii
Introduction	ix
1 Scope	1
2 Normative references	3
3 Terms and definitions, notations and conventions	5
3.1 Terms and definitions.....	5
3.1.1 Terms and definitions provided in ISO/IEC 13249-1:2002.....	5
3.1.2 Terms and definitions provided in this part of ISO/IEC 13249.....	5
3.1.3 Terms and definitions taken from ISO/IEC 9075 (all parts).....	6
3.1.4 Terms and definitions taken from ANSI/NISO Z39.19:1993.....	6
3.2 Notations.....	7
3.3 Conventions	8
4 Concepts.....	9
4.1 Concepts taken from ISO/IEC 9075(all parts).....	9
4.2 Text model	10
4.3 Text identification facilities.....	11
4.3.1 Single word patterns (patterns of the form <word>).....	12
4.3.2 Single phrase patterns (patterns of the form <phrase>)	12
4.3.3 Patterns representing sets of single words.....	12
4.3.4 Patterns formed by sets of single phrases	14
4.3.5 Patterns specifying context conditions.....	15
4.3.6 Patterns involving Boolean operators	16
4.3.7 Identification of FullText values which are pertinent to a given text	17
4.4 Text scoring facilities	18
4.5 Language aspects.....	19
4.5.1 Multilingual texts and patterns	19
4.5.2 Treatment of stop words	19
4.6 Word normalization.....	21
4.7 Types and routines provided by this part of ISO/IEC 13249.....	22
4.7.1 Types and routines intended for public use	22
4.7.2 Types and routines for definition	22
4.7.3 Technique for defining the semantics of Category 1 Contains methods	22
4.7.4 Complementary SQL-invoked regular functions	23
4.8 The Full-Text Information Schema	23
5 Full-Text Types.....	25
5.1 FullText Type and Routines	25
5.1.1 FullText Type	25
5.1.2 Contains Methods	28
5.1.3 Score Methods	30
5.1.4 NumberOfMatches Methods	31
5.1.5 Tokenize Method	32
5.1.6 TokenizePosition Method.....	33
5.1.7 Segmentize Method	35
5.1.8 TokenizeAndStem Method	36
5.1.9 TokenizePositionAndStem Method.....	37
5.1.10 FullText Methods.....	38
5.1.11 Contains Function.....	39
5.1.12 Score Function	40

ISO/IEC 13249-2:2003(E)

5.1.13	NumberOfMatches Function.....	41
5.1.14	FullText_to_Character Function.....	42
5.1.15	StrctPattern_to_FT_Pattern Function.....	43
5.2	FT_TokenPosition Type and Routines.....	44
5.2.1	FT_TokenPosition Type.....	44
5.3	FT_Pattern Type and Routines.....	45
5.3.1	FT_Pattern Type.....	45
5.3.2	FT_Pattern Key Words.....	59
6	Structured Search Pattern Types.....	61
6.1	FT_Any Type and Routines.....	61
6.1.1	FT_Any Type.....	61
6.1.2	Contains Method.....	63
6.1.3	FT_Any Method.....	65
6.2	FT_Primary Type and Routines.....	66
6.2.1	FT_Primary Type.....	66
6.2.2	Contains Method.....	67
6.2.3	StrctPattern_to_FT_Pattern Method.....	68
6.3	FT_WordOrPhrase Type and Routines.....	69
6.3.1	FT_WordOrPhrase Type.....	69
6.3.2	Contains Method.....	70
6.3.3	StrctPattern_to_FT_Pattern Method.....	71
6.3.4	getWordArray Method.....	72
6.4	FT_TextLiteral Type and Routines.....	73
6.4.1	FT_TextLiteral Type.....	73
6.4.2	Contains Method.....	75
6.4.3	NumberOfMatches Method.....	77
6.4.4	StrctPattern_to_FT_Pattern Method.....	79
6.4.5	matches Method.....	80
6.4.6	Tokenize Method.....	81
6.4.7	getWordArray Method.....	82
6.4.8	FT_TextLiteral Methods.....	83
6.4.9	EliminateDQS Function.....	84
6.4.10	InsertDQS Function.....	85
6.5	FT_StemmedWord Type and Routines.....	86
6.5.1	FT_StemmedWord Type.....	86
6.5.2	Contains Method.....	88
6.5.3	StrctPattern_to_FT_Pattern Method.....	90
6.5.4	TokenizeAndStem Method.....	91
6.5.5	FT_StemmedWord Methods.....	92
6.6	FT_Phrase Type and Routines.....	93
6.6.1	FT_Phrase Type.....	93
6.6.2	Contains Method.....	95
6.6.3	NumberOfMatches Method.....	98
6.6.4	StrctPattern_to_FT_Pattern Method.....	101
6.6.5	getWordArray Method.....	102
6.6.6	TokenizePosition Method.....	103
6.6.7	FT_Phrase Methods.....	104
6.6.8	matches Function.....	105
6.6.9	prune Function.....	107
6.7	FT_StemmedPhrase Type and Routines.....	108
6.7.1	FT_StemmedPhrase Type.....	108
6.7.2	Contains Method.....	110
6.7.3	StrctPattern_to_FT_Pattern Method.....	113
6.7.4	TokenizePositionAndStem Method.....	114
6.7.5	FT_StemmedPhrase Methods.....	115
6.8	FT_Proxi Type and Routines.....	117
6.8.1	FT_Proxi Type.....	117
6.8.2	Contains Method.....	118
6.8.3	StrctPattern_to_FT_Pattern Method.....	121

6.8.4	FT_Proxi Method	122
6.9	FT_Soundex Type and Routines	123
6.9.1	FT_Soundex Type	123
6.9.2	Contains Method	124
6.9.3	StrctPattern_to_FT_Pattern Method	125
6.9.4	FT_Soundex Method	126
6.9.5	GetSoundsSimilar Function	127
6.10	FT_Fuzzy Type and Routines	128
6.10.1	FT_Fuzzy Type	128
6.10.2	Contains Method	129
6.10.3	StrctPattern_to_FT_Pattern Method	130
6.10.4	FT_Fuzzy Method	131
6.10.5	GetSpelledSimilar Function	132
6.11	FT_BroaderTerm Type and Routines	133
6.11.1	FT_BroaderTerm Type	133
6.11.2	Contains Method	134
6.11.3	StrctPattern_to_FT_Pattern Method	135
6.11.4	FT_BroaderTerm Method	136
6.11.5	GetBroaderTerms Function	137
6.12	FT_NarrowerTerm Type and Routines	139
6.12.1	FT_NarrowerTerm Type	139
6.12.2	Contains Method	140
6.12.3	StrctPattern_to_FT_Pattern Method	141
6.12.4	FT_NarrowerTerm Method	142
6.12.5	GetNarrowerTerms Function	143
6.13	FT_Synonym Type and Routines	145
6.13.1	FT_Synonym Type	145
6.13.2	Contains Method	146
6.13.3	StrctPattern_to_FT_Pattern Method	147
6.13.4	FT_Synonym Method	148
6.13.5	GetSynonymTerms Function	149
6.14	FT_PreferredTerm Type and Routines	151
6.14.1	FT_PreferredTerm Type	151
6.14.2	Contains Method	152
6.14.3	StrctPattern_to_FT_Pattern Method	153
6.14.4	FT_PreferredTerm Method	154
6.14.5	GetPreferredTerms Function	155
6.15	FT_RelatedTerm Type and Routines	157
6.15.1	FT_RelatedTerm Type	157
6.15.2	Contains Method	158
6.15.3	StrctPattern_to_FT_Pattern Method	159
6.15.4	FT_RelatedTerm Method	160
6.15.5	GetRelatedTerms Function	161
6.16	FT_TopTerm Type and Routines	163
6.16.1	FT_TopTerm Type	163
6.16.2	Contains Method	164
6.16.3	StrctPattern_to_FT_Pattern Method	165
6.16.4	FT_TopTerm Method	166
6.16.5	GetTopTerms Function	167
6.17	FT_IsAbout Type and Routines	169
6.17.1	FT_IsAbout Type	169
6.17.2	Contains Method	170
6.17.3	StrctPattern_to_FT_Pattern Method	171
6.17.4	FT_IsAbout Method	172
6.18	FT_Context Type and Routines	173
6.18.1	FT_Context Type	173
6.18.2	Contains Method	174
6.18.3	StrctPattern_to_FT_Pattern Method	176
6.18.4	FT_Context Method	177

ISO/IEC 13249-2:2003(E)

6.19	FT_ParExpr Type and Routines.....	178
6.19.1	FT_ParExpr Type.....	178
6.19.2	Contains Method.....	179
6.19.3	StrctPattern_to_FT_Pattern Method	180
6.19.4	FT_ParExpr Method.....	181
6.20	FT_Term Type and Routines.....	182
6.20.1	FT_Term Type.....	182
6.20.2	Contains Method.....	183
6.20.3	StrctPattern_to_FT_Pattern Method	184
6.20.4	FT_Term Method	185
6.21	FT_Expr Type and Routines	186
6.21.1	FT_Expr Type	186
6.21.2	Contains Method.....	187
6.21.3	StrctPattern_to_FT_Pattern Method	188
6.21.4	FT_Expr Method.....	189
6.22	FT_PhraseList Type and Routines.....	190
6.22.1	FT_PhraseList Type.....	190
6.22.2	Contains Method.....	191
6.22.3	StrctPattern_to_FT_Pattern Method	193
6.22.4	FT_PhraseList Method	194
7	FullText_Token Type and Routines	195
7.1	FullText_Token Type	195
8	SQL/MM Full-Text Thesaurus Schema	197
8.1	Introduction	197
8.2	FT_THESAURUS Schema	198
8.3	TERM_DICTIONARY base table.....	199
8.4	TERM_HIERARCHY base table.....	200
8.5	TERM_SYNONYM base table	201
8.6	TERM_RELATED base table	201
9	SQL/MM Full-Text Information Schema.....	203
9.1	Introduction	203
9.2	FT_FEATURES view	204
9.3	FT_SCHEMATA view	204
10	SQL/MM Full-Text Definition Schema	205
10.1	Introduction	205
10.2	FT_FEATURES base table.....	206
10.3	FT_SCHEMATA base table.....	209
11	Status Codes	211
12	Conformance.....	213
12.1	Requirements for conformance.....	213
12.2	Features of ISO/IEC 9075 required in this part of ISO/IEC 13249.....	214
12.3	Claims of conformance	214
Annex A.....		215
A.1	Implementation-defined Meta-variables	223
Annex B.....		225
B.1	Implementation-dependent Meta-variables.....	226
Index.....		227

Tables	Page
Table 1 — Method and function name correspondences.....	23
Table 2 — SQLSTATE class and subclass values.....	211

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 13249-2 was prepared by joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

This second edition cancels and replaces the first edition (ISO/IEC 13249-2:2000), which has been technically revised.

ISO/IEC 13249 consists of the following parts, under the general title *Information technology — Database languages — SQL multimedia and application packages*:

- *Part 1: Framework*
- *Part 2: Full-Text*
- *Part 3: Spatial*
- *Part 5: Still image*
- *Part 6: Data mining*

Introduction

The purpose of this International Standard is to define multimedia and application specific types and their associated routines using the user-defined features in ISO/IEC 9075.

This document is based on the content of ISO/IEC International Standard Database Language (SQL).

The organization of this part of ISO/IEC 13249 is as follows:

- 1) Clause 1, "Scope", specifies the scope of this part of ISO/IEC 13249.
- 2) Clause 2, "Normative references", identifies additional standards that, through reference in this part of ISO/IEC 13249, constitute provisions of this part of ISO/IEC 13249.
- 3) Clause 3, "Terms and definitions, notations and conventions", defines the notations and conventions used in this part of ISO/IEC 13249.
- 4) Clause 4, "Concepts", presents concepts used in the definition of this part of ISO/IEC 13249.
- 5) Clause 5, "Full-Text Types", defines the full-text user-defined types and associated routines.
- 6) Clause 6, "Structured Search Pattern Types", defines user-defined types to provide for the construction of structured search patterns.
- 7) Clause 7, "FullText_Token Type and Routines", defines the user-defined FullText_Token type.
- 8) Clause 8, "SQL/MM Full-Text Thesaurus Schema", defines the SQL/MM Full-Text thesaurus schema used to define the thesaurus related routines.
- 9) Clause 9, "SQL/MM Full-Text Information Schema", defines the SQL/MM Full-Text Information Schema.
- 10) Clause 10, "SQL/MM Full-Text Definition Schema", defines the SQL/MM Full-Text Definition Schema.
- 11) Clause 11, "Status Codes", defines the SQLSTATE codes used in this part of ISO/IEC 13249.
- 12) Clause 12, "Conformance", defines the criteria for conformance to this part of ISO/IEC 13249.
- 13) Annex A, "Implementation-defined elements", is an informative Annex. It lists those features for which the body of this part of ISO/IEC 13249 states that the syntax or meaning or effect on the database is partly or wholly implementation-defined, and describes the defining information that an implementer shall provide in each case.
- 14) Annex B, "Implementation-dependent elements", is an informative Annex. It lists those features which the body of this part of ISO/IEC 13249 states explicitly that the syntax or meaning or effect on the database is implementation-dependent.

In the text of this part of ISO/IEC 13249, Clauses begin a new odd-numbered page, and in Clause 5, "Full-Text Types", through Clause 12, "Conformance", Subclauses begin a new page. Any resulting blank space is not significant.