



**INTERNATIONAL STANDARD ISO/IEC 9075-11:2016  
TECHNICAL CORRIGENDUM 2**

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**Information technology — Database languages — SQL — Part 11:  
Information and definition schemas (SQL/Schemata)**

TECHNICAL CORRIGENDUM 2

*Technologies de l'information — Langages de base de données — SQL — Partie 11: Schémas des informations et des définitions (SQL/Schemata)*

RECTIFICATIF TECHNIQUE 2

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## 5 Information Schema

### 5.2 INFORMATION\_SCHEMA\_CATALOG\_NAME view

1. *Rationale: Correct the syntax.*

Replace the view definition with:

```
CREATE VIEW INFORMATION_SCHEMA_CATALOG_NAME AS
  SELECT CATALOG_NAME
  FROM DEFINITION_SCHEMA.CATALOG_NAME
  WHERE CATALOG_NAME = 'CN' ;
```

### 5.34 KEY\_PERIOD\_USAGE view

1. *Rationale: Correct a Conformance Rule.*

Replace Conformance Rule 2) with:

- 2) Without Feature T181, "Application-time period tables", conforming SQL language shall not reference the view INFORMATION\_SCHEMA.KEY\_PERIOD\_USAGE.

### 5.37 PARAMETERS view

*This Subclause is modified by Subclause 19.5, "PARAMETERS view", in ISO/IEC 9075-4.*

*This Subclause is modified by Subclause 21.10, "PARAMETERS view", in ISO/IEC 9075-14.*

1. *Rationale: Identify the correct column.*

Replace Conformance Rule 4) with:

- 4) Without Feature B200, "Polymorphic table functions", conforming SQL language shall not reference INFORMATION\_SCHEMA.PARAMETERS.TABLE\_SEMANTICS, INFORMATION\_SCHEMA.PARAMETERS.IS\_PRUNABLE, or INFORMATION\_SCHEMA.PARAMETERS.HAS\_PASS\_THROUGH\_COLUMNS.

2. *Rationale: Remove incorrect and misleading Conformance Rules.*

Delete Conformance Rules 5) and 6).

### 5.39 PRIVATE\_PARAMETERS view

1. *Rationale: Remove incorrect and inappropriate column references.*

In the Definition, delete "P.FROM\_SQL\_SPECIFIC\_CATALOG, P.FROM\_SQL\_SPECIFIC\_SCHEMA, P.FROM\_SQL\_SPECIFIC\_NAME, P.TO\_SQL\_SPECIFIC\_CATALOG, P.TO\_SQL\_SPECIFIC\_SCHEMA, P.TO\_SQL\_SPECIFIC\_NAME," and "DTD.TABLE\_SEMANTICS, DTD.IS\_PRUNABLE, DTD.HAS\_PASS\_THROUGH\_COLUMNS" from the select list.

2. *Rationale: Private parameters of a polymorphic table function cannot be generic tables.*

Delete Conformance Rules 5), 6) and 7).

### 5.51 ROUTINE\_ROUTINE\_USAGE view

1. *Rationale: Clarify the contents of columns.*

Replace the Definition with:

#### Definition

```
CREATE VIEW ROUTINE_ROUTINE_USAGE AS
  SELECT RRU.SPECIFIC_CATALOG, RRU.SPECIFIC_SCHEMA, RRU.SPECIFIC_NAME,
         RRU.SUBJECT_ROUTINE_CATALOG AS ROUTINE_CATALOG,
         RRU.SUBJECT_ROUTINE_SCHEMA AS ROUTINE_SCHEMA,
         RRU.SUBJECT_ROUTINE_NAME AS ROUTINE_NAME
  FROM DEFINITION_SCHEMA.ROUTINE_ROUTINE_USAGE AS RRU
  JOIN
    DEFINITION_SCHEMA.SCHEMATA AS S
  ON ( ( RRU.SUBJECT_ROUTINE_CATALOG, RRU.SUBJECT_ROUTINE_SCHEMA )
      = ( S.CATALOG_NAME, S.SCHEMA_NAME ) )
  WHERE ( S.SCHEMA_OWNER = CURRENT_USER
        OR
          S.SCHEMA_OWNER IN
            ( SELECT ER.ROLE_NAME
              FROM ENABLED_ROLES AS ER ) )
  AND RRU.SPECIFIC_CATALOG
    = ( SELECT ISCN.CATALOG_NAME
        FROM INFORMATION_SCHEMA_CATALOG_NAME AS ISCN );

GRANT SELECT ON TABLE ROUTINE_ROUTINE_USAGE
  TO PUBLIC WITH GRANT OPTION;
```

NOTE 1 — The columns ROUTINE\_CATALOG, ROUTINE\_SCHEMA, and ROUTINE\_NAME of the view identify the subject routine of either a <routine invocation>, a <method reference>, a <method invocation>, or a <static method invocation> contained in the <SQL routine body> or in the <parameter default> of an SQL parameter of an SQL-invoked routine.

### 5.52 ROUTINE\_SEQUENCE\_USAGE view

1. *Rationale: Make the definition of the view match its description.*

Replace the Definition with:

```
CREATE VIEW ROUTINE_SEQUENCE_USAGE AS
  SELECT SPECIFIC_CATALOG, SPECIFIC_SCHEMA, SPECIFIC_NAME,
         R.ROUTINE_CATALOG, R.ROUTINE_SCHEMA, R.ROUTINE_NAME,
         RSU.SEQUENCE_CATALOG, RSU.SEQUENCE_SCHEMA, RSU.SEQUENCE_NAME
  FROM ( DEFINITION_SCHEMA.SEQUENCE_SEQUENCE_USAGE AS RSU
```

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```
JOIN
  DEFINITION_SCHEMA.ROUTINES AS R
  USING ( SPECIFIC_CATALOG, SPECIFIC_SCHEMA, SPECIFIC_NAME ) )
JOIN
  DEFINITION_SCHEMA.SCHEMATA AS S
  ON ( ( RSU.SEQUENCE_CATALOG, RSU.SEQUENCE_SCHEMA )
      = ( S.CATALOG_NAME, S.SCHEMA_NAME ) )
WHERE ( S.SCHEMA_OWNER = CURRENT_USER
  OR
  S.SCHEMA_OWNER IN
  ( SELECT ER.ROLE_NAME
    FROM ENABLED_ROLES AS ER ) )
AND
  SPECIFIC_CATALOG
  = ( SELECT ISCN.CATALOG_NAME
    FROM INFORMATION_SCHEMA_CATALOG_NAME AS ISCN );

GRANT SELECT ON TABLE ROUTINE_SEQUENCE_USAGE
  TO PUBLIC WITH GRANT OPTION;
```

### 5.69 TRIGGER\_PERIOD\_USAGE view

1. *Rationale: Add missing Conformance Rule.*

Add the following Conformance Rule:

- 5) Without Feature T211, "Basic trigger capability", conforming SQL language shall not reference the view INFORMATION\_SCHEMA.TRIGGER\_PERIOD\_USAGE.

### 5.78 VIEW\_PERIOD\_USAGE view

1. *Rationale: Delete incorrect Conformance Rule.*

Delete Conformance Rule 2).

### 5.82 Short name views

*This Subclause is modified by Subclause 19.8, "Short name views", in ISO/IEC 9075-4.*

*This Subclause is modified by Subclause 24.14, "Short name views", in ISO/IEC 9075-9.*

*This Subclause is modified by Subclause 14.7, "Short name views", in ISO/IEC 9075-13.*

*This Subclause is modified by Subclause 21.15, "Short name views", in ISO/IEC 9075-14.*

1. *Rationale: Remove incorrect column references.*

In the Definition, delete "FROM\_SQL\_SPEC\_CAT, FROM\_SQL\_SPEC\_SCH, FROM\_SQL\_SPEC\_NAME, TO\_SQL\_SPEC\_CAT, TO\_SQL\_SPEC\_SCHEMA, TO\_SQL\_SPEC\_NAME," and ", TABLE\_SEMANTICS, IS\_PRUNABLE, HAS\_PASS\_THRU\_COLS" from the view column list of PRIVATE\_PARAMS\_S, and delete "FROM\_SQL\_SPECIFIC\_CATALOG, FROM\_SQL\_SPECIFIC\_SCHEMA, FROM\_SQL\_SPECIFIC\_NAME, TO\_SQL\_SPECIFIC\_CATALOG, TO\_SQL\_SPECIFIC\_SCHEMA, TO\_SQL\_SPECIFIC\_NAME," and ", TABLE\_SEMANTICS, IS\_PRUNABLE, HAS\_PASS\_THROUGH\_COLUMNS" from the select list of PRIVATE\_PARAMS\_S.

2. *Rationale: Make the definition of the view match its description.*

Replace the Definition of the ROUT\_SEQ\_USAGE\_S view with:

```
CREATE VIEW ROUT_SEQ_USAGE_S
  ( SPECIFIC_CATALOG, SPECIFIC_SCHEMA, SPECIFIC_NAME,
    ROUTINE_CATALOG, ROUTINE_SCHEMA, ROUTINE_NAME,
    SEQUENCE_CATALOG, SEQUENCE_SCHEMA, SEQUENCE_NAME ) AS
SELECT SPECIFIC_CATALOG, SPECIFIC_SCHEMA, SPECIFIC_NAME,
       ROUTINE_CATALOG, ROUTINE_SCHEMA, ROUTINE_NAME,
       SEQUENCE_CATALOG, SEQUENCE_SCHEMA, SEQUENCE_NAME
FROM INFORMATION_SCHEMA.ROUTINE_SEQUENCE_USAGE;
```

3. *Rationale: Remove incorrect and misleading Conformance Rules:*

Delete Conformance Rules 69), 70), and 73).

4. *Rationale: Add missing Conformance Rules:*

Insert the following Conformance Rules:

- 74) Without Feature T522, “Default values for IN parameters of SQL-invoked procedures”, Feature T523, “Default values for INOUT parameters of SQL-invoked procedures”, or Feature T525, “Default values for parameters of SQL-invoked functions”, conforming SQL language shall not reference INFORMATION\_SCHEMA.PRIVATE\_PARAMS\_S.PARAMETER\_DEFAULT.
- 75) Without Feature F651, “Catalog name qualifiers”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.CATALOG\_NAME.
- 76) Without Feature F690, “Collation support”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.COLLATION\_APPLIC\_S.
- 77) Without Feature F341, “Usage tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.CONSTR\_PER\_USAGE.
- 78) Without Feature T181, “Application-time period tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.CONSTR\_PER\_USAGE.
- 79) Without Feature F341, “Usage tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.ROUTINE\_PERIOD\_USAGE.
- 80) Without Feature T180, “System-versioned tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.ROUTINE\_PER\_USAGE.
- 81) Without Feature T181, “Application-time period tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.ROUTINE\_PER\_USAGE.
- 82) Without Feature F341, “Usage tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.TRIG\_PER\_USAGE.
- 83) Without Feature T180, “System-versioned tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.TRIG\_PER\_USAGE.

- 84) Without Feature T181, “Application-time period tables”, conforming SQL language shall not reference the view INFORMATION\_SCHEMA.TRIG\_PER\_USAGE.

## 6 Definition Schema

### 6.10 CHARACTER\_REPERTOIRES base table

1. *Rationale: Correct the definition of the Table Population.*

Replace Table Population rule 4) b) iv) with:

- 4) ...  
 b) ...  
 iv) UCS: 'UCS' and an implementation-defined choice of either 'UCS\_BASIC' or 'UNICODE'.

2. *Rationale: Correct the definition of the Table Population.*

Delete Table Population rules 4) b) v) and 4) b) vi).

### 6.22 DATA\_TYPE\_DESCRIPTOR base table

*This Subclause is modified by Subclause 25.2, “DATA\_TYPE\_DESCRIPTOR base table”, in ISO/IEC 9075-9.  
 This Subclause is modified by Subclause 22.1, “DATA\_TYPE\_DESCRIPTOR base table”, in ISO/IEC 9075-14.  
 This Subclause is modified by Subclause 20.1, “DATA\_TYPE\_DESCRIPTOR base table”, in ISO/IEC 9075-15.*

<https://standards.iteh.ai/catalog/standards/sist/7dbd08f4-3404-4566-bd92-758c3fc02ff3/iso-iec-9075-11-2016-cor-2-2022>

1. *Rationale: Correct the syntax.*

Replace the view definition with:

```
CREATE TABLE DATA_TYPE_DESCRIPTOR (
    OBJECT_CATALOG          INFORMATION_SCHEMA.SQL_IDENTIFIER,
    OBJECT_SCHEMA           INFORMATION_SCHEMA.SQL_IDENTIFIER,
    OBJECT_NAME             INFORMATION_SCHEMA.SQL_IDENTIFIER,
    OBJECT_TYPE             INFORMATION_SCHEMA.CHARACTER_DATA
    CONSTRAINT DATA_TYPE_DESCRIPTOR_CHECK_OBJECT_TYPE
    CHECK ( OBJECT_TYPE IN
        ( 'TABLE', 'DOMAIN', 'USER-DEFINED TYPE',
          'ROUTINE', 'SEQUENCE' ) ),
    DTD_IDENTIFIER         INFORMATION_SCHEMA.SQL_IDENTIFIER,
    DATA_TYPE              INFORMATION_SCHEMA.CHARACTER_DATA
    CONSTRAINT DATA_TYPE_DESCRIPTOR_OBJECT_DATA_TYPE_NOT_NULL
    NOT NULL,
    CHARACTER_SET_CATALOG  INFORMATION_SCHEMA.SQL_IDENTIFIER,
    CHARACTER_SET_SCHEMA   INFORMATION_SCHEMA.SQL_IDENTIFIER,
    CHARACTER_SET_NAME     INFORMATION_SCHEMA.SQL_IDENTIFIER,
    CHARACTER_MAXIMUM_LENGTH INFORMATION_SCHEMA.CARDINAL_NUMBER,
    CHARACTER_OCTET_LENGTH INFORMATION_SCHEMA.CARDINAL_NUMBER,
    COLLATION_CATALOG      INFORMATION_SCHEMA.SQL_IDENTIFIER,
    COLLATION_SCHEMA       INFORMATION_SCHEMA.SQL_IDENTIFIER,
```

```

COLLATION_NAME                INFORMATION_SCHEMA.SQL_IDENTIFIER,
NUMERIC_PRECISION              INFORMATION_SCHEMA.CARDINAL_NUMBER,
NUMERIC_PRECISION_RADIX       INFORMATION_SCHEMA.CARDINAL_NUMBER,
NUMERIC_SCALE                  INFORMATION_SCHEMA.CARDINAL_NUMBER,
DECLARED_DATA_TYPE            INFORMATION_SCHEMA.CHARACTER_DATA,
DECLARED_NUMERIC_PRECISION    INFORMATION_SCHEMA.CARDINAL_NUMBER,
DECLARED_NUMERIC_SCALE        INFORMATION_SCHEMA.CARDINAL_NUMBER,
DATETIME_PRECISION            INFORMATION_SCHEMA.CARDINAL_NUMBER,
INTERVAL_TYPE                  INFORMATION_SCHEMA.CHARACTER_DATA,
INTERVAL_PRECISION            INFORMATION_SCHEMA.CARDINAL_NUMBER,
USER_DEFINED_TYPE_CATALOG     INFORMATION_SCHEMA.SQL_IDENTIFIER,
USER_DEFINED_TYPE_SCHEMA      INFORMATION_SCHEMA.SQL_IDENTIFIER,
USER_DEFINED_TYPE_NAME        INFORMATION_SCHEMA.SQL_IDENTIFIER,
SCOPE_CATALOG                  INFORMATION_SCHEMA.SQL_IDENTIFIER,
SCOPE_SCHEMA                   INFORMATION_SCHEMA.SQL_IDENTIFIER,
SCOPE_NAME                     INFORMATION_SCHEMA.SQL_IDENTIFIER,
MAXIMUM_CARDINALITY           INFORMATION_SCHEMA.CARDINAL_NUMBER,
TABLE_SEMANTICS                INFORMATION_SCHEMA.CHARACTER_DATA
    CONSTRAINT DATA_TYPE_DESCRIPTOR_TABLE_SEMANTICS_CHECK
        CHECK ( TABLE_SEMANTICS IN ( 'ROW', 'SET' ) ),
IS_PRUNABLE                    INFORMATION_SCHEMA.YES_OR_NO,
HAS_PASS_THROUGH_COLUMNS       INFORMATION_SCHEMA.YES_OR_NO,

CONSTRAINT DATA_TYPE_DESCRIPTOR_DATA_TYPE_CHECK_COMBINATIONS
CHECK ( ( DATA_TYPE IN
    ( 'CHARACTER', 'CHARACTER VARYING', 'CHARACTER LARGE OBJECT' )
    AND
    ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
      CHARACTER_SET_NAME ) IS NOT NULL
    AND
    ( CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH ) IS NOT NULL
    AND
    ( NUMERIC_PRECISION, NUMERIC_PRECISION_RADIX, NUMERIC_SCALE,
      DECLARED_DATA_TYPE, DECLARED_NUMERIC_PRECISION,
      DECLARED_NUMERIC_SCALE ) IS NULL
    AND
    DATETIME_PRECISION IS NULL
    AND
    ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
    AND
    ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
      USER_DEFINED_TYPE_NAME ) IS NULL
    AND
    ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
    AND
    MAXIMUM_CARDINALITY IS NULL
    AND
    ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
( DATA_TYPE IN
    ( 'BINARY', 'BINARY VARYING', 'BINARY LARGE OBJECT' )
    AND
    ( CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH ) IS NOT NULL
    AND
    ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
      CHARACTER_SET_NAME, COLLATION_CATALOG,
      COLLATION_SCHEMA, COLLATION_NAME ) IS NULL

```



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```
AND
  ( NUMERIC_PRECISION, NUMERIC_PRECISION_RADIX, NUMERIC_SCALE,
    DECLARED_DATA_TYPE, DECLARED_NUMERIC_PRECISION,
    DECLARED_NUMERIC_SCALE ) IS NULL
AND
  DATETIME_PRECISION IS NULL
AND
  ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
AND
  ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
    USER_DEFINED_TYPE_NAME ) IS NULL
AND
  ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
AND
  MAXIMUM_CARDINALITY IS NULL
AND
  ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
  ( DATA_TYPE IN
    ( 'SMALLINT', 'INTEGER', 'BIGINT' )
  AND
    DECLARED_DATA_TYPE IN
    ( 'SMALLINT', 'INTEGER', 'BIGINT', 'NUMERIC', 'DECIMAL' )
  AND
    ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
      CHARACTER_SET_NAME, CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH,
      COLLATION_CATALOG, COLLATION_SCHEMA, COLLATION_NAME ) IS NULL
  AND
    NUMERIC_PRECISION_RADIX IN ( 2, 10 )
  AND
    NUMERIC_PRECISION IS NOT NULL
  AND
    NUMERIC_SCALE = 0
  AND
    ( DECLARED_NUMERIC_SCALE IS NULL OR DECLARED_NUMERIC_SCALE = 0 )
  AND
    DATETIME_PRECISION IS NULL
  AND
    ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
  AND
    ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
      USER_DEFINED_TYPE_NAME ) IS NULL
  AND
    ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
  AND
    MAXIMUM_CARDINALITY IS NULL
  AND
    ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
  ( DATA_TYPE IN
    ( 'NUMERIC', 'DECIMAL' )
  AND
    DECLARED_DATA_TYPE IN
    ( 'SMALLINT', 'INTEGER', 'BIGINT', 'NUMERIC', 'DECIMAL' )
  AND
    ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
```

```

CHARACTER_SET_NAME, CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH,
    COLLATION_CATALOG, COLLATION_SCHEMA, COLLATION_NAME ) IS NULL
AND
    NUMERIC_PRECISION_RADIX = 10
AND
    ( NUMERIC_PRECISION, NUMERIC_SCALE ) IS NOT NULL
AND
    DATETIME_PRECISION IS NULL
AND
    ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
AND
    ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
    USER_DEFINED_TYPE_NAME ) IS NULL
AND
    ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
AND
    MAXIMUM_CARDINALITY IS NULL
AND
    ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
    ( DATA_TYPE IN
        ( 'REAL', 'DOUBLE PRECISION', 'FLOAT' )
    AND
        DECLARED_DATA_TYPE IN
        ( 'REAL', 'DOUBLE PRECISION', 'FLOAT' )
    AND
        ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
        CHARACTER_SET_NAME, CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH,
        COLLATION_CATALOG, COLLATION_SCHEMA, COLLATION_NAME ) IS NULL
    AND
        NUMERIC_PRECISION IS NOT NULL
    AND
        NUMERIC_PRECISION_RADIX = 2
    AND
        NUMERIC_SCALE IS NULL
    AND
        DATETIME_PRECISION IS NULL
    AND
        ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
    AND
        ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
        USER_DEFINED_TYPE_NAME ) IS NULL
    AND
        ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
    AND
        MAXIMUM_CARDINALITY IS NULL
    AND
        ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
    ( DATA_TYPE = 'DECFLOAT'
    AND
        DECLARED_DATA_TYPE = 'DECFLOAT'
    AND
        ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
        CHARACTER_SET_NAME, CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH,

```

```

        COLLATION_CATALOG, COLLATION_SCHEMA, COLLATION_NAME ) IS NULL
    AND
        NUMERIC_PRECISION IS NOT NULL
    AND
        NUMERIC_PRECISION_RADIX = 10
    AND
        NUMERIC_SCALE IS NULL
    AND
        DATETIME_PRECISION IS NULL
    AND
        ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
    AND
        ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
          USER_DEFINED_TYPE_NAME ) IS NULL
    AND
        ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
    AND
        MAXIMUM_CARDINALITY IS NULL
    AND
        ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
    ( DATA_TYPE IN
      ( 'DATE', 'TIME', 'TIMESTAMP',
        'TIME WITH TIME ZONE', 'TIMESTAMP WITH TIME ZONE' )
    AND
      ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
        CHARACTER_SET_NAME, CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH,

        COLLATION_CATALOG, COLLATION_SCHEMA, COLLATION_NAME ) IS NULL
    AND
      ( NUMERIC_PRECISION, NUMERIC_PRECISION_RADIX, NUMERIC_SCALE,
        DECLARED_DATA_TYPE, DECLARED_NUMERIC_PRECISION,
        DECLARED_NUMERIC_SCALE ) IS NULL
    AND
        DATETIME_PRECISION IS NOT NULL
    AND
        ( INTERVAL_TYPE, INTERVAL_PRECISION ) IS NULL
    AND
        ( USER_DEFINED_TYPE_CATALOG, USER_DEFINED_TYPE_SCHEMA,
          USER_DEFINED_TYPE_NAME ) IS NULL
    AND
        ( SCOPE_CATALOG, SCOPE_SCHEMA, SCOPE_NAME ) IS NULL
    AND
        MAXIMUM_CARDINALITY IS NULL
    AND
        ( TABLE_SEMANTICS, IS_PRUNABLE, HAS_PASS_THROUGH_COLUMNS ) IS NULL )
OR
    ( DATA_TYPE = 'INTERVAL'
    AND
      ( CHARACTER_SET_CATALOG, CHARACTER_SET_SCHEMA,
        CHARACTER_SET_NAME, CHARACTER_MAXIMUM_LENGTH, CHARACTER_OCTET_LENGTH,

        COLLATION_CATALOG, COLLATION_SCHEMA, COLLATION_NAME ) IS NULL
    AND
      ( NUMERIC_PRECISION, NUMERIC_PRECISION_RADIX, NUMERIC_SCALE,
        DECLARED_DATA_TYPE, DECLARED_NUMERIC_PRECISION,

```