2-3 Recognizing Data Types

Agustín Alejandro Mota Hinojosa

October 20, 2023

Contents

1 Vocabulary

1. Store large blocks of single-byte or fixed-width multi-byte NCHAR data in the database.

   NCLOB

2. Hold values, called locators, that specify the location of large objects (such as graphic images) that are stored out of line.

   LOB

3. Hold a single value with no internal components.

   Scalar

4. Store large unstructured or structured binary objects.

   BLOB

5. Contain internal elements that are either scalar (record) or composite (record and table).

   Composite

6. Store large binary files outside of the database.

   BFILE

7. Hold values, called pointers, that point to a storage location.

   Reference

8. A schema object with a name, attributes, and methods.

   Object

9. Store large blocks of character data in the database.

   CLOB

2 Try It / Solve It

1. In your own words, describe what a data type is and explain why it is important.

   A data type is a classification or category that specifies which type of value a variable or column can hold. It defines the format and the operations that can be performed on the data.

2. Identify the three data type categories covered in this course.

    (a) LOB

    (b) Scalar

    (c) Composite

3. Identify three data types covered in the Database Programming with SQL course.

    (a) Number

    (b) Date

    (c) Varchar2

4. What data type can be used in PL/SQL, but can't be used to define a table column?

Boolean

5. Which data type indicates a large data object that is stored outside of the database?

BFILE

6. Identify the data type category (LOB, Scalar, or Composite) for each data type. Each category may be used more than once.

Data Type	Data Type Category
CLOB	LOB
VARCHAR2	Scalar
BLOB	LOB
NUMBER	Scalar
BFILE	LOB
TIMESTAMP	Scalar
NCLOB	LOB
RECORD	Composite
PLS$_{INTEGER}$	Scalar
LONG	Scalar
TABLE	Composite
BOOLEAN	Scalar

7. Enter the data type category and the data type for each value.

    (a) 'Switzerland' Scalar `VARCHAR2`

    (b) Text of a resume Scalar `VARCHAR2`

    (c) 100.20 Scalar `NUMBER`

    (d) A picture `LOB` `BLOB`

    (e) 1053 Scalar `NUMBER`

    (f) 11-Jun-2016 Scalar `DATE`

    (g) 'Computer science is the science of the 21 st century.' Scalar `VARCHAR2`

    (h) Following table:

Index	Last$_{name}$
1	'Newman'
2	'Raman'
3	'Han'

    Composite Table

    (i) A movie `LOB` `BFILE`

    (j) A sound byte `LOB` `BFILE`

    (k) FALSE Scalar `BLOB`