

Defining NOT NULL and UNIQUE Constraints

Objectives

- Define the term “constraint” as it relates to data integrity
- Define and give an example of a NOT NULL and a UNIQUE constraint
- State when it is possible to define a constraint at the column level, and when it is possible at the table level
- State why it is important to give meaningful names to constraints
- Write a CREATE TABLE statement which includes NOT NULL and UNIQUE constraints at the table and column levels.

Vocabulary

Directions: Identify the vocabulary word for each definition below.

1. _____ Every value in a column or set of columns (a composite key) be unique
2. _____ For every row entered into the table, there must be a value for that column
3. _____ Constraint ensures that the column contains no null values and uniquely identifies each row of the table
4. _____ Specifies a condition that must be true for each row of data
5. _____ Identifies that table and column in the parent table
6. _____ An integrity constraint that requires every value in a column or set of columns be unique
7. _____ Designates a column (child table) that establishes a relationship between a primary key in the same table and a different table (parent table)
8. _____ References one or more columns and is defined separately from the definitions of the columns in the table
9. _____ Database rules.
10. _____ Database rule that references a single column

Try It / Solve It

| Global Fast Foods global_locations Table | | | | | | |
|--|------|--------|-----------|-------|----------|---------|
| NAME | TYPE | LENGTH | PRECISION | SCALE | NULLABLE | DEFAULT |
| Id | | | | | | |
| name | | | | | | |
| date_ opened | | | | | | |
| address | | | | | | |
| city | | | | | | |
| zip/postal code | | | | | | |
| phone | | | | | | |
| email | | | | | | |
| manager_ id | | | | | | |
| emergency contact | | | | | | |

Global Fast Foods has been very successful this past year and has opened several new stores. They need to add a table to their database to store information about each of their store's locations. The owners want to make sure that all entries Have an identification number, date opened, address, and city and that no other entry in the table can have the same email address. Based on this information, answer the following questions about the global_locations table. Use the table for your answers.

1. What is a “constraint” as it relates to data integrity?
2. What are the limitations of constraints that may be applied at the column level and at the table level?
3. Why is it important to give meaningful names to constraints?
4. Based on the information provided by the owners, choose a data type for each column. Indicate the length, precision, and scale for each NUMBER data type.
5. Use "(nullable)" to indicate those columns that can have null values.
6. Write the CREATE TABLE statement for the Global Fast Foods locations table to define the constraints at the column level.
7. Execute the CREATE TABLE statement in HTML DB.

8. Execute a DESCRIBE command to view the Table Summary information.

9. Rewrite the CREATE TABLE statement for the Global Fast Foods locations table to define the UNIQUE constraints at the table level. Do not execute this statement.

| NAME | TYPE | LENGTH | PRECISION | SCALE | NULLABL | DEFAULT |
|-------------|----------|--------|-----------|-------|---------|---------|
| id | number | 4 | | | | |
| loc_name | varchar2 | 20 | | | X | |
| date_opened | date | | | | | |
| address | varchar2 | 30 | | | | |
| city | varchar2 | 20 | | | | |
| zip_postal | varchar2 | 20 | | | X | |
| phone | varchar2 | 15 | | | X | |
| email | varchar2 | 80 | | | X | |
| manager_id | number | 4 | | | X | |
| contact | varchar2 | 40 | | | X | |