Module 2 CRUD Operations

Monday, 30 June 2025   9:13 PM

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Data Types

1. Numeric data type - (INT, BIGINT)
2. String data type - (TEXT, CHAR, VARCHAR)
3. Default values

   NOT NULL Constraint
   DAFAULT (To automatically assign values)

   CREATE TABLE club
   (
       Player name VARCHAR(50) NOT NULL,
       Location VARCHAR(50) DEFAULT "'Barcelona"
   );

4. CHECK - It checks for the right and limited set of values to be inserted into the defined column

   Department TEXT CHECK (Department IN('CSE','ECE','AI'))   It can only take values that are defined in the IN clause.

SQL CREATE AND READ COMMAND

1. **CREATE TABLE books (to create a new table)**

2. **DROP TABLE books (to drop the existing table)**

3. **CREATE TABLE TABLE_name(column name data type, …)**

   CREATE TABLE customers(
       Customer_name VARCHAR(50),
       Phone_number INT
   );

4. **ALTER TABLE STATEMENT (Add, drop and modify)**

   ALTER TABLE customers
   ADD COLUMN Nationality VARCHAR(255)
   ADD COLUMN email_address VARCHAR(255)

   ALTER TABLE customers DROP COLUMN nationality;

   ALTER TABLE customers MODIFY customer_name VARCHAR(100);

5. INSERT INTO customers(customer_name, phone_number)
   VALUES ('Sid', '80384893');

6. INSERT INTO select statement : This is used to query the data from source table and insert into column of target table.

   INSERT INTO target_table(target_table column)
   Select column from source_table;

```
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1  CREATE TABLE student_tbl
2  (
3    ID INT,
4    first_name VARCHAR(100),
5    last_name VARCHAR(100),
6    home_address VARCHAR(100),
7    college_address VARCHAR(100),
8    contact_number INT,
```

```sql
 9      department VARCHAR(100)
10  );
11
12  INSERT INTO student_tbl(ID, first_name, last_name, home_address, college_address, contact_number, department)
13  VALUES ('1', 'Marcob', 'Jack', '52 B8 A apt', 'Lincoln University', '90283800', 'CSE'),
14          ('2', 'James', 'Jeo', '42 B9 B apt', 'NYU Tandon', '39028908', 'ECE'),
15          ('3', 'Harry', 'Winston', '80 H3 apt', 'Columbia University', '893729833', "AI ML");
16
17  INSERT INTO student_tbl(ID, first_name, last_name, home_address, college_address, contact_number, department)
18  VALUES ('4', 'Alex', 'More', '83 G7 A apt', 'Ohio University', '92893984', 'CSE'),
19          ('5', 'Garry', 'Page', '82 H8 A apt', 'Washington University', '89892033', 'CSE'),
20          ('6', 'Henry', 'Cavil', '23 H9 B Apt', 'Chicago University','89298380', 'CSE');
21
22
23
24  UPDATE
25      student_tbl
26  SET
27      contact_number = '89372983'
28  WHERE
29      ID = '3';
30
31  /* Use UPDATE command to change college address to Falcon University for CSE department */
32
33  UPDATE
34      student_tbl
35  SET
36      college_address = 'Falcon University'
37  WHERE
38      department = 'CSE';
39
```

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STDIN

Input for the program (Optional)

Output:

```
+------+------------+-----------+--------------+---------------------+----------------+------------+
| ID   | first_name | last_name | home_address | college_address     | contact_number | department |
+------+------------+-----------+--------------+---------------------+----------------+------------+
|    1 | Marcob     | Jack      | 52 B8 A apt  | Falcon University   |       90283800 | CSE        |
|    2 | James      | Jeo       | 42 B9 B apt  | NYU Tandon          |       39028908 | ECE        |
|    3 | Harry      | Winston   | 80 H3 apt    | Columbia University |       89372983 | AI ML      |
|    4 | Alex       | More      | 83 G7 A apt  | Falcon University   |       92893984 | CSE        |
|    5 | Garry      | Page      | 82 H8 A apt  | Falcon University   |       89892033 | CSE        |
|    6 | Henry      | Cavil     | 23 H9 B Apt  | Falcon University   |       89298380 | CSE        |
+------+------------+-----------+--------------+---------------------+----------------+------------+
```