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2019BCS005   Div: A:
Sub: DBMS   {Practical - 04}

Aim: To study the DML command of SQL
       with example:
          (i) Insert   (ii) Update   (iii) Delete.

Theory: DML is an abbreviation for
             data manipulation Language.
   It represents a collection of programing
languages explicitly used to make
changes in the database such as:
(i) CRUD operation to create, read,
    update and delete data
(ii) Using the INSERT, SELECT, UPDATE.
     and DELETE command.

DML command are often part of
a more extensive database language
for instance SQL. These DML
comand may have a specific
syntax to manage data in that
Language.

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Examples:
DML Command in SQL:

(i) Insert: Command to add new or fresh value to the database.

The INSERT query command in SQL provides a way to add new rows of information or data inside a specific database of RDBMS.

Syntax:
INSERT INTO TABLE NAME (column1, column2, ... column N)
VALUES (Value 1, Value 2 .... value N)
here 'column' represents the table column's specific names for inserting data in the desired way

(2) UPDATE : Command to change or update the present / existing data to a newer value inside the database.

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The Update command provides a way to change / update or modify the value present in a table's column.

Syntax:

UPDATE table_name SET column1 = value1, column 2 = value2 ...., coloum N = value N where you can add more condition using OR or AND operators to make multiple changes using a single query.

(iii) DELETE: Command to remove or delete the value or data information from the database current table:
It provide a way to delete a single column or multiple column from table specific row.

Syntax:
DELETE FROM table_name
[WHERE condi"];
You can use the combina" of different operators to get more specific or precise result.

Examples:

INSERT:

Here is an example of adding five records in the customer database table:

INSERT INTO CUSTOMERS (ID,NAME,AGE,CITY,COMPENSATION)VALUES (1, Kritesh, 45, 'Delhi', 2500.00); INSERT INTO CUSTOMERS (ID,NAME,AGE,CITY,COMPENSATION)VALUES (2, Mehta, 35,Kochi, 1500.00); INSERT INTO CUSTOMERS (ID,NAME,AGE,CITY,COMPENSATION)VALUES (3, Preet, 32, Delhi, 7000.00); INSERT INTO CUSTOMERS (ID,NAME,AGE,CITY,COMPENSATION)VALUES (4, Sonali, 52, 'Kolkata', 3500.00); INSERT INTO CUSTOMERS (ID,NAME,AGE,CITY,COMPENSATION)VALUES (5, Ritwik, 56, Noida, 8500.00);
And using the second syntax, you can add the record as that too:

INSERT INTO CUSTOMERSVALUES (6, 'Shubhra', 45, 'MP', 4500.00);
And all the above records will fetch the following result on checking the CUSTOMERS table as following:

```
+--+----+--+----+----+| ID | NAME | AGE | ADDRESS  | SALARY |+--+----+--+
----+----+| 1 | Kritesh  | 45 | Delhi | 2500.00 || 2 | Mehta   | 35 | Kochi | 1500.00 || 3 |
Preet  | 32 | Delhi| 7000.00 || 4 | Sonali  | 52 | Kolkata | 3500.00 || 5 | Ritwik  | 56 | Noida   |
8500.00 || 6 | Shubhra  | 45 | MP  | 4500.00 |+--+----+--+----+----+
```

UPDATE:

+—-+————-+—-+————-+————-+| ID | NAME | AGE | ADDRESS | SALARY |+—-+————-+—-+
————-+————-+| 1 | Kritesh | 45 | Delhi | 2500.00 || 2 | Mehta | 35 | Kochi | 1500.00 || 3 |
Preet | 32 | Delhi | 7000.00 || 4 | Sonali | 52 | Kolkata | 3500.00 || 5 | Ritwik | 56 | Noida |
8500.00 || 6 | Shubhra | 45 | MP | 4500.00 |+—-+————-+—-+————-+————-+

Now you can update the address of the 5th customer with the following UPDATE Query.

SQL> UPDATE CUSTOMERSSET ADDRESS = 'Indore'WHERE ID = 5;
On checking, the customer records will fetch the following result:

+—-+————-+—-+————-+————-+| ID | NAME | AGE | ADDRESS | SALARY |+—-+————-+—-+
————-+————-+| 1 | Kritesh | 45 | Delhi | 2500.00 || 2 | Mehta | 35 | Kochi | 1500.00 || 3 |
Preet | 32 | Delhi | 7000.00 || 4 | Sonali | 52 | Kolkata | 3500.00 || 5 | Ritwik | 56 | Indore |
8500.00 || 6 | Shubhra | 45 | MP | 4500.00 |+—-+————-+—-+————-+————-+

And in case you are looking to change the Salary and address of the whole customer database, you
can do so with the help of the below-mentioned query:

SQL> UPDATE CUSTOMERSSET ADDRESS = 'Indore', SALARY = 3000.00;
+—-+————-+—-+————-+————-+| ID | NAME | AGE | ADDRESS | SALARY |+—-+————-+—-+
————-+————-+| 1 | Kritesh | 45 | Indore | 3000.00 || 2 | Mehta | 35 | Indore | 3000.00 || 3 |
Preet | 32 | Indore | 3000.00 || 4 | Sonali | 52 | Indore | 3000.00 || 5 | Ritwik | 56 | Indore |
3000.00 || 6 | Shubhra | 45 | MP | 3000.00 |+—-+————-+—-+————-+————-+

DELETE:

Example:

+—-+————-+—-+————-+————+| ID | NAME | AGE | ADDRESS | SALARY |+—-+————-+—-+————-+| 1 | Kritesh | 45 | Delhi | 2500.00 || 2 | Mehta | 35 | Kochi | 1500.00 || 3 | Preet | 32 | Delhi | 7000.00 || 4 | Sonali | 52 | Kolkata | 3500.00 || 5 | Ritwik | 56 | Indore | 8500.00 || 6 | Shubhra | 45 | MP | 4500.00 |+—-+————-+—-+————-+————+
And the DELETE query for ID 3 would then be:

SQL> DELETE FROM CUSTOMERSWHERE ID = 3;
Now the database will look something like this:

+—-+————-+—-+————-+————+| ID | NAME | AGE | ADDRESS | SALARY |+—-+————-+—-+————-+| 1 | Kritesh | 45 | Delhi | 2500.00 || 2 | Mehta | 35 | Kochi | 1500.00 || 4 | Sonali | 52 | Kolkata | 3500.00 || 5 | Ritwik | 56 | Indore | 8500.00 || 6 | Shubhra | 45 | MP | 4500.00 |+—-+————-+—-+————-+————+
You can also the use following command to DELETE all customers from a given database:

SQL> DELETE FROM CUSTOMERS;

This will delete all records of the customers from a specific database, respectively.