TATA CONSULTANCY SERVICES

DATA MANIPULATION LANGUAGE

1. Introduction to DML

- Data Manipulation Language(DML) is a structured query language which is used for inserting, updating and deleting data in the database objects like table or view.
- DML comprises SQL statements which modifies the stored data but not the database object.
- Commonly used DML statements are

  - ➢ Insert
  - ➢ Update
  - ➢ Delete

2. INSERT statement

INSERT statement is used for inserting data into table. Data insertion can be done in multiple ways

a) By specifying the column names and values in respective order. Using this approach, values can also be inserted to specific columns leaving the other columns a null value.

Syntax:
INSERT INTO table_name[(column1, column2,...)]
VALUES(value1, value2,....);

Example:
```
SQL> insert into Phone_Book(Name,Phone_no,City)
  2  values('Ritika',9997123456,'Mdl');

1 row created.
```

b) Without specifying the column names explicitly, by specifying the values in proper order

Syntax:

INSERT INTO table_name VALUES(value1, value2,....);

Example:

```
SQL> insert into Phone_Book
  2  values('Subodh',9898989898,'hdr');

1 row created.
```

c) Inserting records in an interactive manner

Syntax:
INSERT INTO table_name VALUES(&value1, &value2, …..);

Example:

```
SQL> insert into Phone_Book
  2  values('&name', &number, '&city');
Enter value for name: Brijesh
Enter value for number: 9595959595
Enter value for city: ngp
old   2: values('&name', &number, '&city')
new   2: values('Brijesh', 9595959595, 'ngp')

1 row created.
```

d) Insert data or copy data from one table to another

Syntax:

INSERT INTO table_name1 [(column1, column2,...)]
SELECT column3,column4 FROM table_name2

Example:

INSERT INTO new_Phone_Book SELECT * FROM Phone_Book ;

The above statement will copy all the records from Phone_Book table to new_Phone_Book table. If only certain records need to be copied then WHERE condition can be specified with the SELECT statement.

3. UPDATE statement

- Update command is used to change or modify one or more record data in a table.
- When a WHERE condition is specified, first the records which satisfy the condition are filtered and then updation is done only on those records which satisfy the condition.

Syntax:

UPDATE Table_name SET Column_name1=value1
[,Column_name2=value2,...]
[WHERE Condition];

- All rows will be updated if no condition is specified in where clause.

Example:

```
SQL> select * from Phone_book;

NAME          PHONE_NO CITY
---------- ---------- ----------
Raj          349235745 Hyd
Nish          807773435 Del
Subodh      9897999999 Hdr
Brijesh     9595959595 Ngp

SQL> update Phone_Book
  2   set city='Mum'
  3   where name='Raj';

1 row updated.

SQL> select * from Phone_Book;

NAME          PHONE_NO CITY
---------- ---------- ----------
Raj          349235745 Mum
Nish          807773435 Del
Subodh      9897999999 Hdr
Brijesh     9595959595 Ngp
```

4. DELETE statement

- Delete statement is used to remove records from a table.
- A subset may be defined for deletion using a condition; otherwise all records will be removed.

Syntax:

DELETE FROM Table_Name
[WHERE Condition];

- Delete statement using WHERE condition.

Example:

```
SQL> delete from Phone_Book
  2  where phone_no=9595959595;

1 row deleted.

SQL> select * from Phone_Book;

NAME            PHONE_NO CITY
---------- ---------- ----------
Subodh      9897999999 hdr
```

- Delete statement without where condition deletes all the rows from table.

Example :

```
SQL> select * from Phone_book;

NAME            PHONE_NO CITY
---------- ---------- ----------
Subodh      9897999999 hdr
Nish         807773435 Del
Raj          349235745 Hyd

SQL> delete from Phone_Book;

3 rows deleted.

SQL> select * from Phone_Book;

no rows selected
```