Roll No.:1403210009

Date.........................Page No........
Practical Name :...Practical No.........

AIM- Introduction to SQL

What is SQL ?

SQL (Structured Query Language) is a standard interactive and programming language for getting information from and updating a database. Although SQL is both an ANSI and an ISO standard, many database products support SQL with proprietary extensions to the standard language. Queries take the form of a command language that lets you select, insert, update, find out the location of data, and so forth. There is also a programming interfaceDifference between DDL commands and DML commands?

DDL commands – DDL stands for data defining language. The DDL section is used for creating database objects, such as tables. In practice, people often use a GUI for creating tables and so on, so it is less common to hand-write DDL statements than it used to be.DML commands – DML stands for data manipulation language. The DML section is used to manipulate the data such as querying it. While is also common to use a query builder to create queries, people do still hand-craft DML statements, such as queries.

COMMANDS IN DDL & DML

DDL Commands
1. CREATE:
Definition: It is used to create table.
Syntax: CREATE table <tablename>(columnname1 datatype(length),columnname2 datatype(length));
Statement: CREATE table student(RollNo number(5),name varchar(30),emailid varchar(20),mobno number(10),dob varchar(10),address varchar(20));
Output:

```
SQL> create table student(rollno number(5),name varchar(30),emailid varchar(20),
mobno number(10),dob varchar(10),address varchar(20));

Table created.

SQL> desc student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ROLLNO                                             NUMBER(5)
 NAME                                              VARCHAR2(30)
 EMAILID                                           VARCHAR2(20)
 MOBNO                                             NUMBER(10)
 DOB                                               VARCHAR2(10)
 ADDRESS                                           VARCHAR2(20)
```

2. ALTER:
Definition: It is used to add, modify, and drop column in an existing table.
- ADD: It is used to add column or constraint to an existing table.

ABES Engineering College   Sign of Faculty
with date

Date.........................Page No........
Practical Name :...Practical No.........

Syntax: ALTER TABLE <tablename> ADD columnname datatype(length);
Statement: ALTER TABLE student ADD class number(6);
Output:

```
SQL> desc student;
 Name                                        Null?     Type
 -------------------------------             --------  -------------------
 ROLLNO                                                NUMBER(5)
 NAME                                                  VARCHAR2(30)
 EMAILID                                               VARCHAR2(20)
 MOBNO                                                 NUMBER(10)
 DOB                                                   VARCHAR2(10)
 ADDRESS                                               VARCHAR2(20)

SQL> ALTER TABLE student ADD class number(6);

Table altered.

SQL> desc student;
 Name                                        Null?     Type
 -------------------------------             --------  -------------------
 ROLLNO                                                NUMBER(5)
 NAME                                                  VARCHAR2(30)
 EMAILID                                               VARCHAR2(20)
 MOBNO                                                 NUMBER(10)
 DOB                                                   VARCHAR2(10)
 ADDRESS                                               VARCHAR2(20)
 CLASS                                                 NUMBER(6)
```

- MODIFY: It is used to modify the length 5 to 25 of Name attribute.
  Syntax: ALTER table <tablename> MODIFY columnname datatype(length);
  Statement: ALTER table student MODIFY class varchar(6);
  Output:

```
SQL> desc student;
 Name                                        Null?     Type
 -------------------------------             --------  -------------
 ROLLNO                                                NUMBER(5)
 NAME                                                  VARCHAR2(30)
 EMAILID                                               VARCHAR2(20)
 MOBNO                                                 NUMBER(10)
 DOB                                                   VARCHAR2(10)
 ADDRESS                                               VARCHAR2(40)
 CLASS                                                 NUMBER(6)

SQL> ALTER table student MODIFY class varchar(6);

Table altered.
SQL> desc student;
 Name                                        Null?     Type
 -------------------------------             --------  -------------

 ROLLNO                                                NUMBER(5)
 NAME                                                  VARCHAR2(30)
 EMAILID                                               VARCHAR2(20)
 MOBNO                                                 NUMBER(10)
 DOB                                                   VARCHAR2(10)
 ADDRESS                                               VARCHAR2(40)
 CLASS                                                 VARCHAR2(6)
```

3. DROP:

ABES Engineering College   Sign of Faculty
with date

Date.........................Page No........
Practical Name :..Practical No.........
_____

Definition: It is used to drop the entire structure.
Syntax: ALTER table <tablename> DROP column columnname;
Statement: ALTER table student DROP column class;
Output:

```
SQL> desc student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 ROLLNO                                             NUMBER(5)
 NAME                                               VARCHAR2(30)
 EMAILID                                            VARCHAR2(20)
 MOBNO                                              NUMBER(10)
 DOB                                                VARCHAR2(10)
 ADDRESS                                            VARCHAR2(40)
 CLASS                                              VARCHAR2(6)

SQL> ALTER table student DROP column class;

 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 ROLLNO                                             NUMBER(5)
 NAME                                               VARCHAR2(30)
 EMAILID                                            VARCHAR2(20)
 MOBNO                                              NUMBER(10)
 DOB                                                VARCHAR2(10)
 ADDRESS                                            VARCHAR2(40)
```

DML Commands:

1. INSERT:

Definition: It is used to insert a new row in a table:
Syntax: INSERT into <tablename> value(column1,column2);
Statement: INSERT into student values(45,'daksha garg','dakshag27@gmail.com',9910636004,'27.12.1996','b-208 patel nagar 2');
Output:

```
SQL> insert into student values(45,'daksha garg','dakshag27@gmail.com',991063600
4,'27.12.1996',NULL);

1 row created.

SQL> select * from student;

    ROLLNO NAME                            EMAILID                        MOBNO
---------- ------------------------------- ------------------ ----------
DOB         ADDRESS
---------- ------------------
        45 daksha garg                     dakshag27@gmail.com  9910636004
27.12.1996
```

2. UPDATE:
      Definition: It is used to updates existing data within a table

_____

ABES Engineering College   Sign of Faculty
with date

Syntax: UPDATE tablename SET columnname = New Value where Columnname = old value;

Statement: UPDATE emp SET Name = 'xyz' where Name 'Daksha';

OUTPUT:

```
SQL> UPDATE student SET Name='daksha' where Name='daksha garg';

1 row updated.
SQL> select * from student;

    ROLLNO NAME                          EMAILID                  MOBNO
---------- ----------------------------- ----------------------- ----------
DOB         ADDRESS
---------- -----------------------------------
        45 daksha                        dakshag27@gmail.com  9910636004
27.12.1996 b-208 patel nagar 2
```

3.DELETE:

Definition: used to delete complete tuple(row).

Syntax: DELETE from <tablename> where columnname = value;

Statement: DELETE from student where name= 'chitranshi';

Output:

```
SQL> DELETE from student where Name = 'chitranshi';

1 row deleted.

SQL> select * from student;

    ROLLNO NAME                          EMAILID                  MOBNO
---------- ----------------------------- ----------------------- ----------
DOB         ADDRESS
---------- -----------------------------------
        45 daksha                        dakshag27@gmail.com  9910636004
27.12.1996 b-208 patel nagar 2
```

ABES Engineering College
with date