**ROLL NO.: A431**

DATE:14/02/2023

**EXPERIMENT NO.: 4**

AIM: To study and implement DDL and DML command.

**THEORY:**

SQL:

SQL is basically database language used for accessing and managing database.

1. **DDL(DATA DEFINITION LANGUAGE)**

COMMANDS

* 1. Create
  2. Alter
  3. Drop
  4. Rename
  5. Describe

1. **DML(DATA MANIPULATION LANGUAGE)**

COMMANDS

* 1. Insert
  2. update
  3. delete
  4. select

**DDL:**

These commands are used to create structural design of database.

* + 1. **create**

This is used to create new table in the database. Syntax:

create table tablename (columnamel datatype(size) Columname2 datatype(size)

columnameN datatype(size));

* + 1. Alter

Alter command is used to modify the structure of the table.

* To add columns to the existing table Syntax:

alter table tablename

add column columname datatype(size);

* For multiple columns Syntax:

alter table tablename

add column columnamel datatype(size), add column columname2 datatype(size), add column columnameN datatype(size);

* To add column at first Syntax:

alter table tablename

add column columname datatype(size)

first;

* To add columns in between

Syntax:

alter table tablename

add column columname datatype(size) after existing columnname;

* To change datatype of a column

Syntax:

alter table tablename

modify column columname datatype(size);

* + 1. **Drop**
* To drop a column Syntax:

alter table tablename drop column columname;

* To drop multiple columns at the same time Syntax:

alter table tablename

drop column columname1; drop column columnameN;

* + 1. **Rename**

Rename command is used to rename existing column.

* To rename a table Syntax:

rename table oldtablename to newtablename;

**DML:**

These commands manipulation and modification of data present in the db.

1. **Insert**

Insert command is used to insert new row in the table.

* To rename a table Syntax:

Insert into tablename(co1umname) Values(va1ues1,value2,. ,valueN);

1. Update

Update command is used to modify existing values of the table.

Syntax:

update tablename set columname=newvalue where columname=o1dvalue;

1. **Select**

Select command is used to retrieve data from the table.

Syntax:

select \* from tablename where condition;

1. Delete

Delete command is used to delete row from the table.

Syntax:

delete from tablename where condition;

**CONCLUSION:**

SQL DDL commands are used for creating new database objects (CREATE command), modifying existing database objects (ALTER command), and deleting or removing database objects (DROP commands).

DML commands are used to modify or manipulate data records present in the database tables. Some of the basic DML operations are data insert (INSERT), data updating (UPDATE), data removal (DELETE) and data querying (SELECT).

rgit@ubuntu: $ mysql -u root -p Enter password:

Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 6

Server version: 5.7.33-0ubuntu0.16.04.1 (Ubuntu) Copyright (c) 2000, 2021, Oracle and/or its affiliates.

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Type ’help;' or ’\h’ for help. Type '\c' to clear the current input statement. mysqI> show databases;

| Database 

information\_schema A525

A580

B3\_542  B435  a445 

airline  b574 

| employee 

| hostel  hotel  hoteldw  hotels  housedw 

| labhesh 

| mysql |

| performance\_schema |

| railway |

1. rows in set (0.00 sec)

mysqI> create database A2437; Query OK, 1 row affected (0.00 sec) mysqI> show databases;

I Database 

information\_schema I A28 I

I A525 I A580

I B3 542 

| B435 

| a445  airline  b574 

employee  hostel 

I hotel 

# I hoteldw

hotels 

| housedw 

| labhesh 

| mysql |

I performance\_schema I I railway

1. rows in set (0.00 sec)

mysqI> use A431;

Database changed

## mysqI> create table student(std\_id int(10), Fname varchar(10),Mname varchar(10),Lname varchar(10),course\_id(10),user\_id(10));

Query OK, 0 rows affected (0.02 sec) mysql> desc student;

# Field

std\_id Fname

I Mname

## I Lname

I course\_id I user\_id

## Type Null I Key | Default | Extra

int(10) | YES I I NULL|

varchar(10) | YES I I NULL|

I varchar(10) | YES I I NULL I 

varchar(10) | YES I I NULL| int(10) | YES I I NULL I

int(10) | YES I I NULL I

## 6 rows in set (0.00 sec)

mysqI> alter table student add column email varchar(10); Query OK, 0 rows affected (0.01 sec)

Records: O Duplicates: O Warnings: 0 mysqI> desc student;

Field

| std\_id

| Fname I Mname I Lname

I course\_id user\_id email

## Type Null I Key | Default | Extra

| int(10) | YES | | NULL|

| varchar(10) | YES | | NULL I varchar(10) | YES I I NULL I

I varchar(10) | YES I I NULL I int(10) | YES I I NULL I

int(10) | YES I I NULL|

varchar(10) | YES | I NULL|

## 7 rows in set (0.00 sec)

mysqI> alter table student modify column email int(10); Query OK, 0 rows affected (0.01 sec)

Records: O Duplicates: O Warnings: 0 mysqI> desc student;

Field

Type Null I Key | Default | Extra

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| std\_id | I int(10) |  | | YES | I |  | I NULL I |  |
| I Fname | varchar(10) |  | | YES | I |  | I NULL| |
| I Mname | varchar(10) |  | | YES | I |  | I NULL I |
| I Lname | varchar(10) | | YES | | I I NULL I | | | |
| | course\_id | | int(10) | | YES | | I I NULL| | | | |
| | user\_id | | int(10) | | YES | | | | NULL I | | | |
| | email | | varchar(10) | | YES | | | | NULL I | | | |

7 rows in set (0.00 sec)

mysqI> alter table student change column email cont\_no int(10); Query OK, 0 rows affected (0.00 sec)

Records: O Duplicates: O Warnings: 0 mysqI> desc student;

| Field

| Type | Null | Key I Default | Extra |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| I std\_id | | int(10) |  | | YES I | I NULL I | I |  | |
| I Fname | varchar(10) |  | | YES I | I NULL I | I |  |  |
| Mname | varchar(10) |  | | YES I | I NULL| |  |  |  |
| Lname | varchar(10) |  | | YES I | I NULL| |  |  |  |
| | course id  | user\_id  | cont\_no | | int(10)  | int(10)  | int(10) |  | | YES I  | YES |  | YES I | I NULL I  | NULL I I NULL I | I |  |  |

7 rows in set (0.00 sec)

mysqI> alter table student drop column cont\_no; Query OK, 0 rows affected (0.01 sec)

Records: O Duplicates: O Warnings: 0 mysqI> desc student;

I Field

| std\_id

| Fname Mname Lname course\_id user\_id

I Type | Null I Key I Default I Extra

| int(10) | YES | | NULL I

| varchar(10) | YES | | NULL I varchar(10) | YES I I NULL| varchar(10) | YES | | NULL| 

int(10) | YES I I NULL| 

I int(10) | YES I I NULLI

6 rows in set (0.00 sec)

mysql> insert into student values(123,’Gagan’ ,'Jagat','Gautam',0011,09); Query OK, 1 row affected (0.00 sec)

mysqI> insert into student values(124,’Dipak’,’Raj’,’Singh',0012,010); Query OK, 1 row affected (0.00 sec)

mysqI> insert into student values(125,’Arpit’,'Kumar’,'Chavan’,0012,011); Query OK, 1 row affected (0.00 sec)

std\_id | Fname | Mname | Lname

## I course id

user\_id

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | 1. I Gagan 2. I Dipak |  |  |  | I Jagat I Raj | | Gautam  | Singh | |0011 1 0012 | I | 09  o1o | I  I |
|  | 125 I Arpit |  |  |  | I Kumar | | Chavan | |0013 |  | 011 | I |

3 rows in set (0.00 sec)

mysql> update student set Fname='Soham’ where Fname='Arpit“, Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0 mysqI> select \* from student;

std\_id | Fname I Mname | Lname

I course\_id

user\_id

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 123 I Gagan |  |  |  | I Jagat | | Gautam | |0011 |  | 09 |  |
| | | 124 | Dipak |  |  |  | I Raj | |Singh | 1 0012 | | | 010 | | |
| | | 125 | Soham |  |  |  | I Kumar | | Chavan | 1 0013 | | | 011 | | |

3 rows in set (0.00 sec)

mysql> update student set user id = 019 where Fname='Gagan' Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

std\_id | Fname | Mname | Lname

## I course id

user\_id

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 123 I Gagan |  |  |  | I Jagat | | Gautam | |0011 |  | 019 |  | I |
| 124 I Dipak |  |  |  | I Raj | | Singh | |0012 | 1 | 010 | I |  |
| 125 I Soham |  |  |  | I Kumar | | Chavan | |0013 |  | 011 |  |  |

3 rows in set (0.00 sec)

mysqI> delete from student where course\_id=0013; Query OK, 1 row affected (0.00 sec)

mysql> select \* from Librarian;

std\_id | Fname | Mname | Lname

I course\_id

user\_id

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 123 I Gagan |  |  |  | I Jagat | | Gautam | 1 0011 |  | 019 | I |
| 124 I Dipak |  |  |  | I Raj | | Singh | 1 0012 | I | 01o | I |

2 rows in set (0.00 sec)

mysql> select course\_id,Fname from student where Lname='Singh",

course\_id | Fname 0012 | Dipak

1 rows in set (0.00 sec)

mysqI> truncate table student; Query OK, 0 rows affected (0.01 sec)

mysqI> select \* from student; Empty set (0.00 sec)

mysqI> desc student;

Field

std\_id

| Fname

| Mname Lname **course\_id** user„id

Type Null I Key I Default | Extra

int(10) | YES I I NULL| 

| varchar(10) | YES I I NULL I

| varchar(10) | YES | | NULL I

varchar(10) | YES | | NULL|  int(10) | YES | | NULL I 

int(10) | YES I I NULL I 

6 rows in set (0.00 sec)

mysqI> drop table student;

Query OK, 0 rows affected (0.00 sec)

mysqI> select \* from Librarian;

ERROR 1146 (42S02): Table ’A431. Librarian doesn’t exist mysqI>