Experiment no. 3

TITLE: DDL for applying referential integrity and schema change commands

AIM: Execute DDL SQL statements to create a Schema.

PROBLEM STATEMENT :

Execute SQL queries to do the following

1. Create two relations with the following schema: DOCTOR_last two digits of your roll no

Name of Attribute	datatype	size	constraint1	constraint2
Doctor_id	integer	6	Primary key	
lname	varchar	20	Primary key	
Mobile_no	integer	11	UNIQUE	NOT NULL
Dept_id	integer	4	Foreign key	NOT NULL

DEPARTMENT_last two digits of your rollno

Name of Attribute	datatype	size	constraint1	constraint2
Dept_id	integer	4	Primary key	
Dept_name	varchar	20	UNIQUE	
Hod_id	integer	6	Foreign key	NOT NULL
Contact_no	integer	4	UNIQUE	NOT NULL

2.Describe the relations after the basic structure is created without foreign keys

3.Describe the final schema for both the relations (In the output include all the statements including alter that are used to obtain the final schema)

THEORY:

Foreign Key: A Foreign Key allows us to associate a row in one table to a row in another table.

This is done by setting a column in one table as a Foreign Key and having that column reference another table's Primary Key column.

Creating this relationship is done using the REFERENCES keyword in this form:

FOREIGN KEY (fk_col_name) REFERENCES target_table_name (pk_col_name);

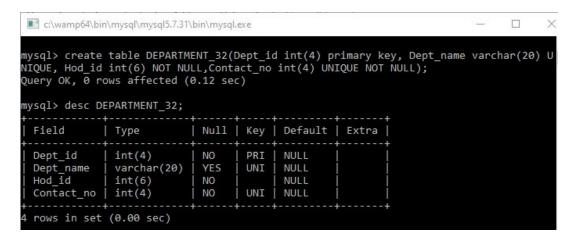**References** : The references keyword is used to define which table and column is used in a foreign key relationship

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OUTPUT:

```
c:\wamp64\bin\mysql\mysql5.7.31\bin\mysql.exe

Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 5.7.31 MySQL Community Server (GPL)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| classroom          |
| college_181105032  |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
6 rows in set (0.00 sec)
```

```
c:\wamp64\bin\mysql\mysql5.7.31\bin\mysql.exe                    —  □  >

mysql> use college_181105032;
Database changed
mysql> create table DOCTOR_32(Doctor_id int(6), lname varchar(20), Mobile_no int(11)
UNIQUE NOT NULL, Dept_id int(4) NOT NULL, primary key(Doctor_id,lname));
Query OK, 0 rows affected (0.04 sec)

mysql> desc DOCTOR_32;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| Doctor_id | int(6)      | NO   | PRI | NULL    |       |
| lname     | varchar(20) | NO   | PRI | NULL    |       |
| Mobile_no | int(11)     | NO   | UNI | NULL    |       |
| Dept_id   | int(4)      | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

```
c:\wamp64\bin\mysql\mysql5.7.31\bin\mysql.exe                    —  □  ×

mysql> create table DEPARTMENT_32(Dept_id int(4) primary key, Dept_name varchar(20) U
NIQUE, Hod_id int(6) NOT NULL,Contact_no int(4) UNIQUE NOT NULL);
Query OK, 0 rows affected (0.12 sec)

mysql> desc DEPARTMENT_32;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| Dept_id    | int(4)      | NO   | PRI | NULL    |       |
| Dept_name  | varchar(20) | YES  | UNI | NULL    |       |
| Hod_id     | int(6)      | NO   |     | NULL    |       |
| Contact_no | int(4)      | NO   | UNI | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

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181105032

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```
c:\wamp64\bin\mysql\mysql5.7.31\bin\mysql.exe                        —  □  ✕

mysql> alter table DOCTOR_32 add constraint foreign key(Dept_id) references DEPARTMEN
T_32(Dept_id);
Query OK, 0 rows affected (0.17 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc DOCTOR_32;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| Doctor_id | int(6)      | NO   | PRI | NULL    |       |
| lname     | varchar(20) | NO   | PRI | NULL    |       |
| Mobile_no | int(11)     | NO   | UNI | NULL    |       |
| Dept_id   | int(4)      | NO   | MUL | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.07 sec)
```

```
c:\wamp64\bin\mysql\mysql5.7.31\bin\mysql.exe                        —  □  ✕

mysql> alter table DEPARTMENT_32 add constraint foreign key(Hod_id) references DOCTOR
_32(Doctor_id);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc DEPARTMENT_32;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| Dept_id    | int(4)      | NO   | PRI | NULL    |       |
| Dept_name  | varchar(20) | YES  | UNI | NULL    |       |
| Hod_id     | int(6)      | NO   | MUL | NULL    |       |
| Contact_no | int(4)      | NO   | UNI | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql>
```

CONCLUSION: DDL SQL statements to create a Schema were executed successfully.