Experiment No: 13

```
mysql> create table movies(mid int primary key, mtitle varchar(20), mcat varch
ar(20));
Query OK, 0 rows affected (0.09 sec)

mysql> create table distribution(did int primary key, dname varchar(25), movie
id int);
Query OK, 0 rows affected (0.05 sec)

mysql> alter table distribution add foreign key(movieid) references movies(mid
);
Query OK, 0 rows affected (0.16 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> insert into movies values(100, 'Jai Bhim','Crime'), (101, 'Shershaah','
War'),(103, 'Conjuring', 'Horror'), (104, 'Tenet', 'Sci-Fi'),(105, 'Hridayam',
 'Romance');
Query OK, 5 rows affected (0.05 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> insert into distribution values(10, 'Amazon Prime', 100), (13, 'Newline
 Cinemas', 103),(14,'Warner Bros.',104), (15, 'Merryland Cinemas', 105);
Query OK, 4 rows affected (0.06 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select movies.mid, movies.mtitle, distribution.dname from movies inner
join distribution on movies.mid = distribution.movieid;
+-----+-----------+------------------+
| mid | mtitle    | dname            |
+-----+-----------+------------------+
| 100 | Jai Bhim  | Amazon Prime     |
| 103 | Conjuring | Newline Cinemas  |
| 104 | Tenet     | Warner Bros.     |
| 105 | Hridayam  | Merryland Cinemas |
+-----+-----------+------------------+
4 rows in set (0.00 sec)

mysql> select movies.mid, movies.mtitle, distribution.dname from movies left j
oin distribution on movies.mid = distribution.movieid;
+-----+-----------+------------------+
| mid | mtitle    | dname            |
+-----+-----------+------------------+
| 100 | Jai Bhim  | Amazon Prime     |
| 101 | Shershaah | NULL             |
| 103 | Conjuring | Newline Cinemas  |
| 104 | Tenet     | Warner Bros.     |
| 105 | Hridayam  | Merryland Cinemas |
+-----+-----------+------------------+
5 rows in set (0.00 sec)

mysql> select movies.mid, movies.mtitle, distribution.dname from movies right
join distribution on movies.mid = distribution.movieid;
+------+-----------+------------------+
| mid  | mtitle    | dname            |
+------+-----------+------------------+
|  100 | Jai Bhim  | Amazon Prime     |
|  103 | Conjuring | Newline Cinemas  |
|  104 | Tenet     | Warner Bros.     |
|  105 | Hridayam  | Merryland Cinemas |
+------+-----------+------------------+
4 rows in set (0.00 sec)
```

Experiment No: 14

```
mysql> create table class(clno int primary key, clname varchar(20), tut
name varchar(20), clstr int);
Query OK, 0 rows affected (0.07 sec)

mysql> create table updatelog(clno int, clname varchar(20), tutname var
char(20), clstr int);
Query OK, 0 rows affected (0.09 sec)

mysql> insert into class values(1,'Nithin','Bineesh', 49), (2,'Anurag',
'Lufiya',49),(3,'Albert','Aneesh',49);
Query OK, 3 rows affected (0.04 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> delimiter $
mysql> create trigger trigger1
    -> after update on class for each row
    -> begin
    -> insert into updatelog
    -> set clno = old.clno,
    -> clname = old.clname,
    -> tutname = old.tutname,
    -> clstr = old.clstr;
    -> end $
Query OK, 0 rows affected (0.03 sec)

mysql> delimiter ;
mysql> update class set tutname = 'Saju' where clno = 1;
Query OK, 1 row affected (0.14 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update class set clno = 15 where clno = 3;
Query OK, 1 row affected (0.12 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from class;
+------+---------+---------+-------+
| clno | clname  | tutname | clstr |
+------+---------+---------+-------+
|    1 | Nithin  | Saju    |    49 |
|    2 | Anurag  | Lufiya  |    49 |
|   15 | Albert  | Aneesh  |    49 |
+------+---------+---------+-------+
3 rows in set (0.00 sec)

mysql> select * from updatelog;
+------+---------+---------+-------+
| clno | clname  | tutname | clstr |
+------+---------+---------+-------+
|    1 | Nithin  | Bineesh |    49 |
|    3 | Albert  | Aneesh  |    49 |
+------+---------+---------+-------+
2 rows in set (0.00 sec)
```

Experiment No: 15

```
mysql> create table student_details(sid int, sname varchar(20), sgender
varchar(1), phy int, che int, mat int);
Query OK, 0 rows affected (0.07 sec)

mysql> insert into student_details values(1,'Roy','M',99,89,85),
    -> (2,'Edd','M',76,45,78),(4,'Riya','F',56,45,67),
    -> (9,'Roy','M',67,45,33),(6,'Rose','F',67,65,32),
    -> (5,'Chris','M',90,78,98),(11,'Hope','M',68,45,75),
    -> (7,'Bella','F',78,56,87);
Query OK, 8 rows affected (0.03 sec)
Records: 8  Duplicates: 0  Warnings: 0

mysql> delimiter !!
mysql> create procedure ranklist()
    -> begin
    -> select sname,(phy+che+mat) as total_marks
    -> from student_details order by total_marks desc;
    -> end!!
Query OK, 0 rows affected (0.02 sec)

mysql> call ranklist()!!
+-------+-------------+
| sname | total_marks |
+-------+-------------+
| Roy   |         273 |
| Chris |         266 |
| Bella |         221 |
| Edd   |         199 |
| Hope  |         188 |
| Riya  |         168 |
| Rose  |         164 |
| Roy   |         145 |
+-------+-------------+
8 rows in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)
```

```
mysql> create procedure list_student_percentage(in mark int)
    -> begin
    -> select sname from student_details
    -> where ((phy+che+mat)/300) * 100 > mark;
    -> end!!
Query OK, 0 rows affected (0.03 sec)

mysql> call list_student_percentage(60)!!
+-------+
| sname |
+-------+
| Roy   |
| Edd   |
| Chris |
| Hope  |
| Bella |
+-------+
5 rows in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> create procedure list_student_count(in mark int, out count int)
    -> begin
    -> select count(*) from student_details
    -> where ((phy+che+mat)/300) * 100 > mark;
    -> end!!
Query OK, 0 rows affected (0.15 sec)

mysql> call list_student_count(50,@count)!!
+----------+
| count(*) |
+----------+
|        7 |
+----------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)
```

Experiment No: 16

```
mysql> create table student(rollno int, name varchar(20), dob date);
Query OK, 0 rows affected (0.08 sec)

mysql> insert into student values(1,'Anu','1999-07-28'),
    -> (2,'Ali','2000-05-01'),(3,'Abi','2001-08-11');
Query OK, 3 rows affected (0.03 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from student;
+--------+------+------------+
| rollno | name | dob        |
+--------+------+------------+
|      1 | Anu  | 1999-07-28 |
|      2 | Ali  | 2000-05-01 |
|      3 | Abi  | 2001-08-11 |
+--------+------+------------+
3 rows in set (0.00 sec)

mysql> delimiter !!
mysql> create function age(dob date)
    -> returns int
    -> deterministic begin
    -> declare age int;
    -> set age = timestampdiff(year,dob,sysdate());
    -> return age;
    -> end!!
Query OK, 0 rows affected (0.17 sec)

mysql> delimiter ;
mysql> select name,age(dob) from student;
+------+----------+
| name | age(dob) |
+------+----------+
| Anu  |       23 |
| Ali  |       22 |
| Abi  |       21 |
+------+----------+
3 rows in set (0.00 sec)
```

Experiment No: 17

```
user@user-vbox:~$ sudo mysql -u root -p
Enter password:

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| exp14              |
| exp15              |
| exp16              |
| exp8               |
| information_schema |
| mysql              |
| performance_schema |
| student            |
| sys                |
+--------------------+
9 rows in set (0.00 sec)

mysql> use student;

Database changed
mysql> show tables;
+-------------------+
| Tables_in_student |
+-------------------+
| student_names     |
+-------------------+
1 row in set (0.01 sec)

mysql> exit;
Bye
user@user-vbox:~$ sudo mysqldump student > student_backup.sql
user@user-vbox:~$ sudo mysql -u root -p
Enter password:

mysql> use student;

Database changed
mysql> drop table student_names;
Query OK, 0 rows affected (0.06 sec)

mysql> show tables;
Empty set (0.00 sec)

mysql> exit;
Bye
user@user-vbox:~$ sudo mysql student < student_backup.sql
user@user-vbox:~$ sudo mysql -u root -p
Enter password:

mysql> use student;

Database changed
mysql> show tables;
+-------------------+
| Tables_in_student |
+-------------------+
| student_names     |
+-------------------+
1 row in set (0.00 sec)

mysql> exit;
Bye
user@user-vbox:~$
```

Experiment No: 18

```
---
> show dbs;
admin    0.000GB
config   0.000GB
local    0.000GB
> use jyothi
switched to db jyothi
> show dbs
admin    0.000GB
config   0.000GB
local    0.000GB
> db
jyothi
> db.createCollection('student')
{ "ok" : 1 }
> show dbs
admin    0.000GB
config   0.000GB
jyothi   0.000GB
local    0.000GB
> show collections
student
> db.student.insert({rollno: 1, name: "Amal", branch: "CSE", cgpa: 7.0})
WriteResult({ "nInserted" : 1 })
> db.student.insert({rollno: 2, name: "Dia", branch: "CSE", cgpa: 9.0})
WriteResult({ "nInserted" : 1 })
> db.student.insert({rollno: 3, name: "Joel", branch: "CSE", cgpa: 8.5, place: "Thrissur"})
WriteResult({ "nInserted" : 1 })
> db.student.insertMany([{rollno: 4, name: "Ann", branch: "AD", cgpa: 9.5},{rollno: 5, name: "Varun", branch:
"AD", cgpa: 6.5}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("63b2eb9a9f22b872bed05bcd"),
                ObjectId("63b2eb9a9f22b872bed05bce")
        ]
}
> db.student.find()
{ "_id" : ObjectId("63b2e9db9f22b872bed05bca"), "rollno" : 1, "name" : "Amal", "branch" : "CSE", "cgpa" : 7 }
{ "_id" : ObjectId("63b2ea029f22b872bed05bcb"), "rollno" : 2, "name" : "Dia", "branch" : "CSE", "cgpa" : 9 }
{ "_id" : ObjectId("63b2ea669f22b872bed05bcc"), "rollno" : 3, "name" : "Joel", "branch" : "CSE", "cgpa" : 8.5,
"place" : "Thrissur" }
{ "_id" : ObjectId("63b2eb9a9f22b872bed05bcd"), "rollno" : 4, "name" : "Ann", "branch" : "AD", "cgpa" : 9.5 }
```

```
}
> db.student.find().pretty()
{
        "_id" : ObjectId("63b2e9db9f22b872bed05bca"),
        "rollno" : 1,
        "name" : "Amal",
        "branch" : "CSE",
        "cgpa" : 7
}
{
        "_id" : ObjectId("63b2ea029f22b872bed05bcb"),
        "rollno" : 2,
        "name" : "Dia",
        "branch" : "CSE",
        "cgpa" : 9
}
{
        "_id" : ObjectId("63b2ea669f22b872bed05bcc"),
        "rollno" : 3,
        "name" : "Joel",
        "branch" : "CSE",
        "cgpa" : 8.5,
        "place" : "Thrissur"
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bcd"),
        "rollno" : 4,
        "name" : "Ann",
        "branch" : "AD",
        "cgpa" : 9.5
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bce"),
        "rollno" : 5,
        "name" : "Varun",
        "branch" : "AD",
        "cgpa" : 6.5
}
```

```
> db.student.find({"rollno": 1}).pretty()
{
        "_id" : ObjectId("63b2e9db9f22b872bed05bca"),
        "rollno" : 1,
        "name" : "Amal",
        "branch" : "CSE",
        "cgpa" : 7
}
> db.student.find({"name": "Varun"}).pretty()
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bce"),
        "rollno" : 5,
        "name" : "Varun",
        "branch" : "AD",
        "cgpa" : 6.5
}
> db.student.find({"cgpa":{$gt:8}}).pretty()
{
        "_id" : ObjectId("63b2ea029f22b872bed05bcb"),
        "rollno" : 2,
        "name" : "Dia",
        "branch" : "CSE",
        "cgpa" : 9
}
{
        "_id" : ObjectId("63b2ea669f22b872bed05bcc"),
        "rollno" : 3,
        "name" : "Joel",
        "branch" : "CSE",
        "cgpa" : 8.5,
        "place" : "Thrissur"
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bcd"),
        "rollno" : 4,
        "name" : "Ann",
        "branch" : "AD",
        "cgpa" : 9.5
}
> db.student.find({"cgpa":{$lt:8}}).pretty()
{
        "_id" : ObjectId("63b2e9db9f22b872bed05bca"),
        "rollno" : 1,
        "name" : "Amal",
        "branch" : "CSE",
        "cgpa" : 7
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bce"),
        "rollno" : 5,
        "name" : "Varun",
        "branch" : "AD",
        "cgpa" : 6.5
}
> db.student.find({"cgpa":{$gt:8}},{name: 1}).pretty()
{ "_id" : ObjectId("63b2ea029f22b872bed05bcb"), "name" : "Dia" }
{ "_id" : ObjectId("63b2ea669f22b872bed05bcc"), "name" : "Joel" }
{ "_id" : ObjectId("63b2eb9a9f22b872bed05bcd"), "name" : "Ann" }
> db.student.find({"cgpa":{$gt:8}},{name: 1,_id: 0}).pretty()
{ "name" : "Dia" }
{ "name" : "Joel" }
{ "name" : "Ann" }
> db.student.find({"cgpa":{$gt:8}},{name: 1,_id: 0,place: 1}).pretty()
{ "name" : "Dia" }
{ "name" : "Joel", "place" : "Thrissur" }
{ "name" : "Ann" }
> cls
```

```
> db.student.update({"rollno": 1},{$set: {"name": "Rahul"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.student.find().pretty()
{
        "_id" : ObjectId("63b2e9db9f22b872bed05bca"),
        "rollno" : 1,
        "name" : "Rahul",
        "branch" : "CSE",
        "cgpa" : 7
}
{
        "_id" : ObjectId("63b2ea029f22b872bed05bcb"),
        "rollno" : 2,
        "name" : "Dia",
        "branch" : "CSE",
        "cgpa" : 9
}
{
        "_id" : ObjectId("63b2ea669f22b872bed05bcc"),
        "rollno" : 3,
        "name" : "Joel",
        "branch" : "CSE",
        "cgpa" : 8.5,
        "place" : "Thrissur"
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bcd"),
        "rollno" : 4,
        "name" : "Ann",
        "branch" : "AD",
        "cgpa" : 9.5
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bce"),
        "rollno" : 5,
        "name" : "Varun",
        "branch" : "AD",
        "cgpa" : 6.5
}
> db.student.remove({"rollno": 1})
WriteResult({ "nRemoved" : 1 })
```

```
> db.student.find().pretty()
{
        "_id" : ObjectId("63b2ea029f22b872bed05bcb"),
        "rollno" : 2,
        "name" : "Dia",
        "branch" : "CSE",
        "cgpa" : 9
}
{
        "_id" : ObjectId("63b2ea669f22b872bed05bcc"),
        "rollno" : 3,
        "name" : "Joel",
        "branch" : "CSE",
        "cgpa" : 8.5,
        "place" : "Thrissur"
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bcd"),
        "rollno" : 4,
        "name" : "Ann",
        "branch" : "AD",
        "cgpa" : 9.5
}
{
        "_id" : ObjectId("63b2eb9a9f22b872bed05bce"),
        "rollno" : 5,
        "name" : "Varun",
        "branch" : "AD",
        "cgpa" : 6.5
}
> db.student.remove({})
WriteResult({ "nRemoved" : 4 })
> db.student.find().pretty()
```

```
> db.student.drop()
true
> show collections
> db.dropDatabase()
{ "ok" : 1 }
> show dbs
admin   0.000GB
config  0.000GB
local   0.000GB
```

```
> exit
bye
```