1. Create table Professor

```
mysql> create table PROFESSOR( prof_id varchar(5) NOT NULL PRIMARY KEY CHECK(LENGTH(prof_id)=5), prof_name varchar(255), email varchar(255) UNIQUE CH
ECK (email LIKE "%__@__%"), mobile varchar(10) UNIQUE CHECK (LENGTH(mobile)=10), speciality varchar(255), dept_id varchar(5) NOT NULL CHECK(LENGTH(de
pt_id)=5) );
Query OK, 0 rows affected (0.04 sec)

mysql> show tables
    -> ;
+----------------------+
| Tables_in_university |
+----------------------+
| PROFESSOR            |
+----------------------+
1 row in set (0.00 sec)

mysql> describe PROFESSOR
    -> ;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| prof_id    | varchar(5)   | NO   | PRI | NULL    |       |
| prof_name  | varchar(255) | YES  |     | NULL    |       |
| email      | varchar(255) | YES  | UNI | NULL    |       |
| mobile     | varchar(10)  | YES  | UNI | NULL    |       |
| speciality | varchar(255) | YES  |     | NULL    |       |
| dept_id    | varchar(5)   | NO   |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```

Create table School

```
mysql> create table SCHOOL ( SCode varchar(5) NOT NULL, Scl_name varchar(255), prof_id varchar(5), Location varchar(255), PRIMARY KEY (SCode), FOREIG
N KEY (prof_id) REFERENCES PROFESSOR (prof_id) ON DELETE SET NULL );
Query OK, 0 rows affected (0.03 sec)

mysql> DESCRIBE SCHOOL
    -> ;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| SCode    | varchar(5)   | NO   | PRI | NULL    |       |
| Scl_name | varchar(255) | YES  |     | NULL    |       |
| prof_id  | varchar(5)   | YES  | MUL | NULL    |       |
| Location | varchar(255) | YES  |     | NULL    |       |
+----------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Create table Department

```
mysql> create table DEPARTMENT ( dept_id varchar(5) NOT NULL, Dname varchar(255), SCode varchar(5), prof_id varchar(5), PRIMARY KEY (dept_id), FOREIG
N KEY (SCode) REFERENCES SCHOOL (SCode) ON DELETE SET NULL);
Query OK, 0 rows affected (0.03 sec)

mysql> alter table DEPARTMENT ADD FOREIGN KEY (prof_id) REFERENCES PROFESSOR (prof_id) ON DELETE SET NULL;
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESCRIBE DEPARTMENT
    -> ;
+---------+--------------+------+-----+---------+-------+
| Field   | Type         | Null | Key | Default | Extra |
+---------+--------------+------+-----+---------+-------+
| dept_id | varchar(5)   | NO   | PRI | NULL    |       |
| Dname   | varchar(255) | YES  |     | NULL    |       |
| SCode   | varchar(5)   | YES  | MUL | NULL    |       |
| prof_id | varchar(5)   | YES  | MUL | NULL    |       |
+---------+--------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

Create table Course

```
mysql> create table COURSE (Crs_code varchar(5) NOT NULL, Cr_name varchar(255), Description varchar(255), Credits int, Hours int, PRIMARY KEY (Crs_co
de));
Query OK, 0 rows affected (0.03 sec)

mysql> describe COURSE
    -> ;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| Crs_code    | varchar(5)   | NO   | PRI | NULL    |       |
| Cr_name     | varchar(255) | YES  |     | NULL    |       |
| Description | varchar(255) | YES  |     | NULL    |       |
| Credits     | int          | YES  |     | NULL    |       |
| Hours       | int          | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

Create table Class

```
mysql> create table CLASS (Cls_code varchar(5) NOT NULL PRIMARY KEY, Slot varchar(5), Stime timestamp, Etime timestamp, Crs_code varchar(5), Prof_id
varchar(5), Room_no varchar(5), Sem_code varchar(7), Day_of_week varchar(5), FOREIGN KEY (Crs_code) REFERENCES COURSE (Crs_code) ON DELETE SET NULL,
constraint daychk1 check (Day_of_week in ("MON","TUE","WED","THUR","FRI","SAT")) );
Query OK, 0 rows affected (0.03 sec)

mysql> alter table CLASS ADD FOREIGN KEY (Prof_id) REFERENCES PROFESSOR (prof_id) ON DELETE SET NULL;
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> alter table CLASS ADD FOREIGN KEY (Sem_code) REFERENCES SEMESTER (Sem_code) ON DELETE SET NULL;
Query OK, 0 rows affected (0.07 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe CLASS
    -> ;
+-------------+------------+------+-----+---------+-------+
| Field       | Type       | Null | Key | Default | Extra |
+-------------+------------+------+-----+---------+-------+
| Cls_code    | varchar(5) | NO   | PRI | NULL    |       |
| Slot        | varchar(5) | YES  |     | NULL    |       |
| Stime       | timestamp  | YES  |     | NULL    |       |
| Etime       | timestamp  | YES  |     | NULL    |       |
| Crs_code    | varchar(5) | YES  | MUL | NULL    |       |
| Prof_id     | varchar(5) | YES  | MUL | NULL    |       |
| Room_no     | varchar(5) | YES  |     | NULL    |       |
| Sem_code    | varchar(7) | YES  | MUL | NULL    |       |
| Day_of_week | varchar(5) | YES  |     | NULL    |       |
+-------------+------------+------+-----+---------+-------+
9 rows in set (0.01 sec)
```

create table Semester

```
mysql> create table SEMESTER (  Sem_code varchar(7) NOT NULL PRIMARY KEY, Term varchar(7) NOT NULL, Year varchar(5) NOT NULL, Sdate varchar(10) not n
ull, Edate varchar(10) not null, constraint chk1 check (Sem_code LIKE 'WIN%' OR Sem_code LIKE 'FALL%'), constraint chk2 check (Term in ("Winter", "Fa
ll")));
Query OK, 0 rows affected (0.04 sec)
```

create table Student

```
mysql> create table STUDENT (
    -> Reg_no varchar(10) NOT NULL,
    -> Sname varchar(255),
    -> Address varchar(255),
    -> DOB varchar(10),
    -> email varchar(255) UNIQUE CHECK (email LIKE "%__@__%"),
    -> mobile varchar(10) UNIQUE CHECK (LENGTH(mobile)=10),
    -> Dept_id varchar(5),
    -> prof_id varchar(5),
    -> PRIMARY KEY (Reg_no),
    -> FOREIGN KEY (Dept_id) REFERENCES DEPARTMENT (dept_id) ON DELETE SET NULL,
    -> FOREIGN KEY (prof_id) REFERENCES PROFESSOR (prof_id) ON DELETE SET NULL
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESCRIBE STUDENT
    -> ;
+---------+--------------+------+-----+---------+-------+
| Field   | Type         | Null | Key | Default | Extra |
+---------+--------------+------+-----+---------+-------+
| Reg_no  | varchar(10)  | NO   | PRI | NULL    |       |
| Sname   | varchar(255) | YES  |     | NULL    |       |
| Address | varchar(255) | YES  |     | NULL    |       |
| DOB     | varchar(10)  | YES  |     | NULL    |       |
| email   | varchar(255) | YES  | UNI | NULL    |       |
| mobile  | varchar(10)  | YES  | UNI | NULL    |       |
| Dept_id | varchar(5)   | YES  | MUL | NULL    |       |
| prof_id | varchar(5)   | YES  | MUL | NULL    |       |
+---------+--------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

create table Enroll

```
mysql> CREATE TABLE ENROLL ( Cls_code varchar(5) NOT NULL, Reg_no varchar(5) NOT NULL, Enroll_time timestamp default current_timestamp, Grade varchar
(2) CHECK (Grade in ('S', 'A', 'B', 'C', 'D', 'E', 'F')), PRIMARY KEY (Cls_code, Reg_no) );
Query OK, 0 rows affected (0.02 sec)

mysql> DESCRIBE ENROLL;
+-------------+------------+------+-----+-------------------+-------------------+
| Field       | Type       | Null | Key | Default           | Extra             |
+-------------+------------+------+-----+-------------------+-------------------+
| Cls_code    | varchar(5) | NO   | PRI | NULL              |                   |
| Reg_no      | varchar(5) | NO   | PRI | NULL              |                   |
| Enroll_time | timestamp  | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
| Grade       | varchar(2) | YES  |     | NULL              |                   |
+-------------+------------+------+-----+-------------------+-------------------+
4 rows in set (0.01 sec)
```

create table Student_visa

```
mysql> CREATE TABLE STUDENT_VISA (
    -> Reg_no varchar(5) NOT NULL PRIMARY KEY,
    -> Visa_status int check(Visa_status in (0,1)));
Query OK, 0 rows affected (0.02 sec)

mysql> describe STUDENT_VISA;
+-------------+------------+------+-----+---------+-------+
| Field       | Type       | Null | Key | Default | Extra |
+-------------+------------+------+-----+---------+-------+
| Reg_no      | varchar(5) | NO   | PRI | NULL    |       |
| Visa_status | int        | YES  |     | NULL    |       |
+-------------+------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

create table Programme

```
mysql> create table PROGRAMME(Prog_code varchar(5) NOT NULL PRIMARY KEY,  Prog_name varchar(255), Prog_preamble varchar(255), Scode varchar(7), Dept_
id varchar(5), FOREIGN KEY (Dept_id) REFERENCES DEPARTMENT (dept_id) ON DELETE SET NULL, FOREIGN KEY (Scode) REFERENCES SEMESTER (Sem_code) ON DELETE
 SET NULL);
Query OK, 0 rows affected (0.04 sec)

mysql> describe PROGRAMME;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| Prog_code     | varchar(5)   | NO   | PRI | NULL    |       |
| Prog_name     | varchar(255) | YES  |     | NULL    |       |
| Prog_preamble | varchar(255) | YES  |     | NULL    |       |
| Scode         | varchar(7)   | YES  | MUL | NULL    |       |
| Dept_id       | varchar(5)   | YES  | MUL | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

desc Programme

2. Table professor

```
mysql> select * from professor;
+---------+--------------+------------+-----------+---------+-----------+
| Prof_id | Email        | Mobile     | Speciality | Dept_id | Prof_name |
+---------+--------------+------------+-----------+---------+-----------+
|   10000 | prof1@da.com | 1000000001 | Maths      |    1234 | Sethi     |
|   10001 | prof2@da.com | 1000000002 | Computer   |    1235 | Obhai     |
|   10002 | prof3@da.com | 1000000003 | Maths      |    1234 | Nabhai    |
|   10003 | prof4@da.com | 1000000004 | Biology    |    1236 | Eire      |
|   10004 | prof5@da.com | 1000000005 | Biology    |    1236 | Ckusit    |
|   10005 | prof6@da.com | 1000000006 | Physics    |    1237 | Niyaaa    |
|   10006 | prof7@da.com | 1000000007 | Computer   |    1235 | Kuhuuu    |
|   10007 | prof8@da.com | 1000000008 | Chemistry  |    1238 | Tutum     |
|   10008 | prof9@da.com | 1000000009 | Chemistry  |    1238 | Juto      |
|   10009 | prof10@da.com | 1000000010 | Physics   |    1237 | Artem     |
+---------+--------------+------------+-----------+---------+-----------+
10 rows in set (0.04 sec)
```

Table School

```
mysql> select * from school;
+-------+----------+---------+----------+
| SCode | Scl_name | Prof_id | Location |
+-------+----------+---------+----------+
|  9870 | A School |   10000 | A        |
|  9871 | B School |   10001 | B        |
|  9872 | C School |   10003 | C        |
|  9873 | D School |   10005 | D        |
|  9874 | E School |   10008 | E        |
+-------+----------+---------+----------+
5 rows in set (0.00 sec)
```

Table Department

```
mysql> select * from department;
+---------+----------+-------+---------+
| Dept_id | Dname    | SCode | Prof_id |
+---------+----------+-------+---------+
|    1234 | Maths    |  9870 |   10000 |
|    1235 | Computer |  9871 |   10001 |
|    1236 | Biology  |  9872 |   10003 |
|    1237 | Physics  |  9873 |   10005 |
|    1238 | Chem     |  9874 |   10008 |
+---------+----------+-------+---------+
5 rows in set (0.00 sec)
```

Table Course

```
mysql> select * from course;
+----------+----------+--------------------+---------+-------+
| Crs_code | Crs_name | Description        | Credits | Hours |
+----------+----------+--------------------+---------+-------+
|     5001 | MCA      | Mst. in CS Applied |      27 |   100 |
|     5002 | BCA      | Bach. in CS Applied|      21 |   200 |
|     5003 | MSc Chem | Mst. in Chemistry  |      30 |   150 |
|     5004 | BSc Chem | Bach. in Chemistry |      24 |   250 |
|     5005 | MSc Math | Mst. in Mathematics|      30 |   150 |
|     5006 | BSc Math | Bach. in Mathematics|     24 |   250 |
|     5007 | MSc Bio  | Mst. in Biology    |      30 |   150 |
|     5008 | BSc Bio  | Bach. in Biology   |      24 |   250 |
|     5009 | MSc Phys | Mst. in Physics    |      30 |   150 |
|     5010 | BSc Phys | Bach. in Physics   |      24 |   250 |
+----------+----------+--------------------+---------+-------+
10 rows in set (0.00 sec)
```

Table Class

```
mysql> select * from class;
+----------+------+----------+----------+----------+---------+---------+----------+-------------+
| Cls_code | Slot | Stime    | Etime    | Crs_code | Prof_id | Room_no | Sem_code | Day_of_week |
+----------+------+----------+----------+----------+---------+---------+----------+-------------+
|     3330 |    1 | 09:00:00 | 10:00:00 |     5001 |   10001 |       1 | FallSem  | Mon         |
|     3331 |    2 | 10:00:00 | 11:00:00 |     5002 |   10006 |       1 | FallSem  | Mon         |
|     3332 |    3 | 11:00:00 | 12:00:00 |     5005 |   10000 |       2 | FallSem  | Mon         |
|     3333 |    4 | 12:00:00 | 13:00:00 |     5006 |   10002 |       2 | FallSem  | Mon         |
|     3334 |    1 | 09:00:00 | 10:00:00 |     5003 |   10008 |       1 | FallSem  | Tue         |
|     3335 |    2 | 10:00:00 | 11:00:00 |     5004 |   10007 |       1 | FallSem  | Tue         |
|     3336 |    3 | 11:00:00 | 12:00:00 |     5007 |   10003 |       2 | FallSem  | Tue         |
|     3337 |    4 | 12:00:00 | 13:00:00 |     5008 |   10004 |       2 | FallSem  | Tue         |
|     3338 |    1 | 09:00:00 | 10:00:00 |     5009 |   10005 |       1 | FallSem  | Wed         |
|     3339 |    2 | 10:00:00 | 11:00:00 |     5010 |   10009 |       1 | FallSem  | Wed         |
|     3340 |    3 | 11:00:00 | 12:00:00 |     5001 |   10001 |       2 | FallSem  | Wed         |
|     3341 |    4 | 12:00:00 | 13:00:00 |     5002 |   10006 |       2 | FallSem  | Wed         |
|     3342 |    1 | 09:00:00 | 10:00:00 |     5005 |   10000 |       1 | FallSem  | Thu         |
|     3343 |    2 | 10:00:00 | 11:00:00 |     5006 |   10002 |       1 | FallSem  | Thu         |
|     3344 |    3 | 11:00:00 | 12:00:00 |     5003 |   10008 |       2 | FallSem  | Thu         |
|     3345 |    4 | 12:00:00 | 13:00:00 |     5004 |   10007 |       2 | FallSem  | Thu         |
|     3346 |    1 | 09:00:00 | 10:00:00 |     5007 |   10003 |       1 | FallSem  | Fri         |
|     3347 |    2 | 10:00:00 | 11:00:00 |     5008 |   10004 |       1 | FallSem  | Fri         |
|     3348 |    3 | 11:00:00 | 12:00:00 |     5009 |   10005 |       2 | FallSem  | Fri         |
|     3349 |    4 | 12:00:00 | 13:00:00 |     5010 |   10009 |       2 | FallSem  | Fri         |
|     3350 |    1 | 09:00:00 | 10:00:00 |     5001 |   10001 |       1 | WinSem   | Mon         |
|     3351 |    2 | 10:00:00 | 11:00:00 |     5002 |   10006 |       1 | WinSem   | Mon         |
|     3352 |    3 | 11:00:00 | 12:00:00 |     5005 |   10000 |       2 | WinSem   | Mon         |
|     3353 |    4 | 12:00:00 | 13:00:00 |     5006 |   10002 |       2 | WinSem   | Mon         |
|     3354 |    1 | 09:00:00 | 10:00:00 |     5003 |   10008 |       1 | WinSem   | Tue         |
|     3355 |    2 | 10:00:00 | 11:00:00 |     5004 |   10007 |       1 | WinSem   | Tue         |
|     3356 |    3 | 11:00:00 | 12:00:00 |     5007 |   10003 |       2 | WinSem   | Tue         |
|     3357 |    4 | 12:00:00 | 13:00:00 |     5008 |   10004 |       2 | WinSem   | Tue         |
|     3358 |    1 | 09:00:00 | 10:00:00 |     5009 |   10005 |       1 | WinSem   | Wed         |

|     3359 |    2 | 10:00:00 | 11:00:00 |     5010 |   10009 |       1 | WinSem   | Wed         |
|     3360 |    3 | 11:00:00 | 12:00:00 |     5001 |   10001 |       2 | WinSem   | Wed         |
|     3361 |    4 | 12:00:00 | 13:00:00 |     5002 |   10006 |       2 | WinSem   | Wed         |
|     3362 |    1 | 09:00:00 | 10:00:00 |     5005 |   10000 |       1 | WinSem   | Thu         |
|     3363 |    2 | 10:00:00 | 11:00:00 |     5006 |   10002 |       1 | WinSem   | Thu         |
|     3364 |    3 | 11:00:00 | 12:00:00 |     5003 |   10008 |       2 | WinSem   | Thu         |
|     3365 |    4 | 12:00:00 | 13:00:00 |     5004 |   10007 |       2 | WinSem   | Thu         |
|     3366 |    1 | 09:00:00 | 10:00:00 |     5007 |   10003 |       1 | WinSem   | Fri         |
|     3367 |    2 | 10:00:00 | 11:00:00 |     5008 |   10004 |       1 | WinSem   | Fri         |
|     3368 |    3 | 11:00:00 | 12:00:00 |     5009 |   10005 |       2 | WinSem   | Fri         |
|     3369 |    4 | 12:00:00 | 13:00:00 |     5010 |   10009 |       2 | WinSem   | Fri         |
+----------+------+----------+----------+----------+---------+---------+----------+-------------+
40 rows in set (0.00 sec)
```

Table Semester

```
mysql> select * from semester;
+----------+--------+------+------------+------------+
| Sem_code | Term   | Year | Sdate      | Edate      |
+----------+--------+------+------------+------------+
| FallSem  | Fall   | 2021 | 2021-08-25 | 2021-12-18 |
| WinSem   | Winter | 2022 | 2022-01-03 | 2022-05-15 |
+----------+--------+------+------------+------------+
2 rows in set (0.00 sec)
```

Table Student

```
mysql> select * from student;
+--------+-------+-----------+------------+--------------+------------+---------+---------+
| Reg_no | Sname | Address   | DoB        | Email        | Mobile     | Dept_id | Prof_id |
+--------+-------+-----------+------------+--------------+------------+---------+---------+
| 21BSM1 | Po    | 12K L City | 2004-12-27 | po@da1.com   | 1100000015 |    1234 |   10002 |
| 21BSM2 | Dude  | 12A C City | 2005-01-04 | dude@da1.com | 1100000016 |    1234 |   10002 |
| 21MCA1 | Atup  | 45B A City | 2000-06-25 | atup@da1.com | 1100000001 |    1235 |   10001 |
| 21MCA2 | Evin  | 45A B City | 2000-08-15 | evin@da1.com | 1100000002 |    1235 |   10001 |
| 21MSB1 | Mog   | 16X Q City | 2001-12-03 | mog@da1.com  | 1100000017 |    1236 |   10003 |
| 21MSB2 | Huyt  | 16Q X City | 2000-12-19 | huyt@da1.com | 1100000018 |    1236 |   10003 |
| 21MSC1 | Nuhu  | 54K F City | 2001-12-03 | nuhu@da1.com | 1100000005 |    1238 |   10008 |
| 21MSC2 | Bok   | 12M B City | 2001-10-13 | bok@da1.com  | 1100000006 |    1238 |   10008 |
| 21MSM1 | Kaju  | 17W D City | 2000-01-17 | kaju@da1.com | 1100000013 |    1234 |   10000 |
| 21MSM2 | Bil   | 17Q F City | 2000-09-17 | bil@da1.com  | 1100000014 |    1234 |   10000 |
| 22BCA1 | Atal  | 13C D City | 2005-01-14 | atal@da1.com | 1100000003 |    1235 |   10006 |
| 22BCA2 | EKri  | 13D C City | 2005-03-19 | ekri@da1.com | 1100000004 |    1235 |   10006 |
| 22BSB1 | Tiya  | 49P I City | 2005-11-19 | tiya@da1.com | 1100000019 |    1236 |   10004 |
| 22BSB2 | Moka  | 69E D City | 2005-04-12 | moka@da1.com | 1100000020 |    1236 |   10004 |
| 22BSC1 | Hula  | 12B M City | 2004-06-09 | hula@da1.com | 1100000007 |    1238 |   10007 |
| 22BSC2 | Kak   | 01A L City | 2005-10-19 | kak@da1.com  | 1100000008 |    1238 |   10007 |
| 22BSP1 | Iwa   | 98S Q City | 2005-11-07 | iwa@da1.com  | 1100000011 |    1237 |   10009 |
| 22BSP2 | Aha   | 91W K City | 2005-10-07 | aha@da1.com  | 1100000012 |    1237 |   10009 |
| 22MSP1 | Guy   | 01L A City | 2000-10-19 | guy@da1.com  | 1100000009 |    1237 |   10005 |
| 22MSP2 | Turu  | 98Q S City | 2000-05-07 | turu@da1.com | 1100000010 |    1237 |   10005 |
+--------+-------+-----------+------------+--------------+------------+---------+---------+
20 rows in set (0.00 sec)
```

Table Enroll

```
mysql> select * from enroll;
+----------+---------+---------------------+-------+
| Cls_code | Reg_no  | Enroll_time         | Grade |
+----------+---------+---------------------+-------+
|     3330 | 21MCA1  | 2021-08-25 09:00:00 | S     |
|     3332 | 21MSM1  | 2021-08-25 11:00:00 | S     |
|     3333 | 21BSM1  | 2021-08-25 12:00:00 | C     |
|     3334 | 21MSC1  | 2021-08-26 09:00:00 | A     |
|     3336 | 21MSB1  | 2021-08-26 11:00:00 | F     |
|     3340 | 21MCA2  | 2021-08-27 11:00:00 | A     |
|     3342 | 21MSM2  | 2021-08-27 09:00:00 | B     |
|     3343 | 21BSM2  | 2021-08-27 10:00:00 | S     |
|     3344 | 21MSC2  | 2021-08-28 11:00:00 | B     |
|     3346 | 21MSB2  | 2021-08-28 10:00:00 | B     |
|     3351 | 22BCA1  | 2022-01-03 10:00:00 | F     |
|     3355 | 22BSC1  | 2022-01-04 10:00:00 | B     |
|     3357 | 22BSB1  | 2022-01-04 12:00:00 | S     |
|     3358 | 22MSP1  | 2022-01-05 09:00:00 | B     |
|     3359 | 22BSP1  | 2022-01-05 10:00:00 | A     |
|     3361 | 22BCA2  | 2022-01-05 13:00:00 | C     |
|     3365 | 22BSC2  | 2022-01-06 12:00:00 | S     |
|     3367 | 22BSB2  | 2022-01-06 10:00:00 | E     |
|     3368 | 22MSP2  | 2022-01-07 11:00:00 | F     |
|     3369 | 22BSP2  | 2022-01-07 12:00:00 | B     |
+----------+---------+---------------------+-------+
20 rows in set (0.00 sec)
```

Table Student_Visa

```
mysql> select * from student_visa;
+---------+--------------+
| Reg_no  | Visa_status  |
+---------+--------------+
| 21BSM1  | Not Approved |
| 21BSM2  | Not Approved |
| 21MCA1  | Approved     |
| 21MCA2  | Approved     |
| 21MSB1  | Approved     |
| 21MSB2  | Not Approved |
| 21MSC1  | Not Approved |
| 21MSC2  | Approved     |
| 21MSM1  | Not Approved |
| 21MSM2  | Approved     |
| 22BCA1  | Not Approved |
| 22BCA2  | Not Approved |
| 22BSB1  | Approved     |
| 22BSB2  | Not Approved |
| 22BSC1  | Not Approved |
| 22BSC2  | Not Approved |
| 22BSP1  | Approved     |
| 22BSP2  | Approved     |
| 22MSP1  | Not Approved |
| 22MSP2  | Approved     |
+---------+--------------+
20 rows in set (0.00 sec)
```

Table Programme

```
mysql> select * from programme;
+-----------+-----------+------------------+--------+----------+
| Prog_code | Prog_name | Prog_preamble    | SCode  | Dept_id  |
+-----------+-----------+------------------+--------+----------+
| BIO001    | Bioprog   | Teach Biology!   | 9872   | 1236     |
| CHE001    | Chemprog  | Teach Chemistry! | 9874   | 1238     |
| CS001     | CSprog    | Teach Computer!  | 9871   | 1235     |
| MAT001    | Mathprog  | Teach Maths!     | 9870   | 1234     |
| PHY001    | Phyprog   | Teach Physics!   | 9873   | 1237     |
+-----------+-----------+------------------+--------+----------+
5 rows in set (0.00 sec)
```

3. (i) Display name, email address and address for those students who live in A city and whose name has 4 letters.

select sname,email,address from student where address like '%A City' and length(sname)=4;

```
+--------+--------------+-------------+
| sname  | email        | address     |
+--------+--------------+-------------+
| Atup   | atup@da1.com | 45B A City  |
+--------+--------------+-------------+
1 row in set (0.00 sec)
```

(ii) Display name, email address and address of students who are not from D city.

select sname,email,address from student where address not like '%D City';

```
+----------+----------------+------------------+
| sname    | email          | address          |
+----------+----------------+------------------+
| Po       | po@da1.com     | 12K L City       |
| Dude     | dude@da1.com   | 12A C City       |
| Atup     | atup@da1.com   | 45B A City       |
| Evin     | evin@da1.com   | 45A B City       |
| Mog      | mog@da1.com    | 16X Q City       |
| Huyt     | huyt@da1.com   | 16Q X City       |
| Nuhu     | nuhu@da1.com   | 54K F City       |
| Bok      | bok@da1.com    | 12M B City       |
| Bil      | bil@da1.com    | 17Q F City       |
| EKri     | ekri@da1.com   | 13D C City       |
| Tiya     | tiya@da1.com   | 49P I City       |
| Hula     | hula@da1.com   | 12B M City       |
| Kak      | kak@da1.com    | 01A L City       |
| Iwa      | iwa@da1.com    | 98S Q City       |
| Aha      | aha@da1.com    | 91W K City       |
| Guy      | guy@da1.com    | 01L A City       |
| Turu     | turu@da1.com   | 98Q S City       |
+----------+----------------+------------------+
17 rows in set (0.00 sec)
```

(iii) Display name, email address and address of students from C city.

select sname,email,address from student where address like '%C City';

```
+----------+----------------+------------------+
| sname    | email          | address          |
+----------+----------------+------------------+
| Dude     | dude@da1.com   | 12A C City       |
| EKri     | ekri@da1.com   | 13D C City       |
+----------+----------------+------------------+
2 rows in set (0.00 sec)
```

(iv)List the name of professors along with their speciality who belong to Biology School.

select p.prof_name,p.speciality,s.scl_name from school s,professor p where s.scl_name='Biology School' and p.prof_id=s.prof_id;

```
+------------+-------------+---------------+
| prof_name  | speciality  | scl_name      |
+------------+-------------+---------------+
| Eire       | Biology     | Biology School|
+------------+-------------+---------------+
1 row in set (0.00 sec)
```

(v) Display name of school and Professor who chairs the school.

select s.scl_name,p.prof_name,p.prof_id from professor p,school s where p.prof_id=s.prof_id;

```
+------------------+-------------+----------+
| scl_name         | prof_name   | prof_id  |
+------------------+-------------+----------+
| Maths School     | Sethi       | 10000    |
| Computer School  | Obhai       | 10001    |
| Biology School   | Eire        | 10003    |
| Physics School   | Niyaaa      | 10005    |
| Chemistry School | Juto        | 10008    |
+------------------+-------------+----------+
5 rows in set (0.00 sec)
```

(vi) List course code, course name and course description in alphabetic order of course code.

select crs_code,crs_name,description from course order by crs_code;

```
+-----------+-----------+-----------------------+
| crs_code  | crs_name  | description           |
+-----------+-----------+-----------------------+
|      5001 | MCA       | Mst. in CS Applied    |
|      5002 | BCA       | Bach. in CS Applied   |
|      5003 | MSc Chem  | Mst. in Chemistry     |
|      5004 | BSc Chem  | Bach. in Chemistry    |
|      5005 | MSc Math  | Mst. in Mathematics   |
|      5006 | BSc Math  | Bach. in Mathematics  |
|      5007 | MSc Bio   | Mst. in Biology       |
|      5008 | BSc Bio   | Bach. in Biology      |
|      5009 | MSc Phys  | Mst. in Physics       |
|      5010 | BSc Phys  | Bach. in Physics      |
+-----------+-----------+-----------------------+
10 rows in set (0.00 sec)
```

(vii) Change mobile number of a student interactively.

update student set mobile=1100000021 where reg_no='22BSB2';

```
mysql> update student set mobile=1100000021 where reg_no='22BSB2';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

(viii) Remove enrollment information of a student from a particular course interactively. How would you recover the data?

(ix) Create a duplicate of course table.

create table dupl_course like course;

```
mysql> create table dupl_course like course;
Query OK, 0 rows affected (0.02 sec)

mysql> insert into dupl_course select * from course;
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from dupl_course;
+----------+-----------+---------------------+---------+-------+
| Crs_code | Crs_name  | Description         | Credits | Hours |
+----------+-----------+---------------------+---------+-------+
|     5001 | MCA       | Mst. in CS Applied  |      27 |   100 |
|     5002 | BCA       | Bach. in CS Applied |      21 |   200 |
|     5003 | MSc Chem  | Mst. in Chemistry   |      30 |   150 |
|     5004 | BSc Chem  | Bach. in Chemistry  |      24 |   250 |
|     5005 | MSc Math  | Mst. in Mathematics |      30 |   150 |
|     5006 | BSc Math  | Bach. in Mathematics|      24 |   250 |
|     5007 | MSc Bio   | Mst. in Biology     |      30 |   150 |
|     5008 | BSc Bio   | Bach. in Biology    |      24 |   250 |
|     5009 | MSc Phys  | Mst. in Physics     |      30 |   150 |
|     5010 | BSc Phys  | Bach. in Physics    |      24 |   250 |
+----------+-----------+---------------------+---------+-------+
10 rows in set (0.00 sec)
```

(x) Create a view for list of students (Reg_no, Sname) and the courses they have registered along with name of professors teaching the course.

(xi) List the room number, slot, start time, end time and duration of every class held on Wednesdays in descending order of room number.

select room_no,slot,stime,etime,(etime-stime)/10000 as "duration" from class where day_of_week='Wed' order by room_no desc;

```
+---------+------+----------+----------+----------+
| room_no | slot | stime    | etime    | duration |
+---------+------+----------+----------+----------+
|       2 |    3 | 11:00:00 | 12:00:00 |   1.0000 |
|       2 |    4 | 12:00:00 | 13:00:00 |   1.0000 |
|       2 |    3 | 11:00:00 | 12:00:00 |   1.0000 |
|       2 |    4 | 12:00:00 | 13:00:00 |   1.0000 |
|       1 |    1 | 09:00:00 | 10:00:00 |   1.0000 |
|       1 |    2 | 10:00:00 | 11:00:00 |   1.0000 |
|       1 |    1 | 09:00:00 | 10:00:00 |   1.0000 |
|       1 |    2 | 10:00:00 | 11:00:00 |   1.0000 |
+---------+------+----------+----------+----------+
8 rows in set (0.00 sec)
```

(xii) Display the name and grade of a student in different courses underwent in fall semester 2021 (Fall 2021).

select s.sname,e.reg_no,e.grade from enroll e, student s where month(e.enroll_time)=8 and year(enroll_time)=2021 and e.reg_no=s.reg_no;

```
+----------+----------+--------+
| sname    | reg_no   | grade  |
+----------+----------+--------+
| Atup     | 21MCA1   | S      |
| Kaju     | 21MSM1   | S      |
| Po       | 21BSM1   | C      |
| Nuhu     | 21MSC1   | A      |
| Mog      | 21MSB1   | F      |
| Evin     | 21MCA2   | A      |
| Bil      | 21MSM2   | B      |
| Dude     | 21BSM2   | S      |
| Bok      | 21MSC2   | B      |
| Huyt     | 21MSB2   | B      |
+----------+----------+--------+
10 rows in set (0.00 sec)
```

(xiii) Find out name of students who have taken MCA course as well as MSc Math course in fall semester 2021 (Fall 2021).

```
mysql> select s.sname from student s,enroll e
    -> where e.reg_no=s.reg_no and
    -> month(e.enroll_time)=8 and
    -> year(e.enroll_time)=2021 and
    -> e.cls_code in
    -> (select c.cls_code from class c,course co
    -> where c.crs_code=co.crs_code and
    -> co.crs_name='MCA' and
    -> co.crs_name='MSc Math');
Empty set (0.00 sec)
```

(xiv) Find out name of students who have taken BSc Chem course but have not taken BSc Bio course in winter semester 2022 (Winter 2022).

```
mysql> select s.sname from student s,enroll e
    -> where e.reg_no=s.reg_no and
    -> month(e.enroll_time)=1 and
    -> year(e.enroll_time)=2022 and
    -> e.cls_code in
    -> (select c.cls_code from class c,course co
    -> where c.crs_code=co.crs_code and
    -> co.crs_name='BSc Chem' and
    -> co.crs_name not like 'BSc Bio');
+-------+
| sname |
+-------+
| Hula  |
| Kak   |
+-------+
2 rows in set (0.00 sec)
```

(xv) List the registration number and name of the students who have registered for maximum number of credits in Winter 22 (Winter 2022) semester. (Assume that the maximum number of credits = 30).

```
mysql> select s.reg_no,s.sname from student s,enroll e
    -> where e.reg_no=s.reg_no and
    -> month(e.enroll_time)=1 and
    -> year(enroll_time)=2022 and
    -> e.cls_code in
    -> (select c.cls_code from class c,course co
    -> where c.crs_code=co.crs_code and
    -> co.credits=(select max(credits) from course));
+---------+--------+
| reg_no  | sname  |
+---------+--------+
| 22MSP1  | Guy    |
| 22MSP2  | Turu   |
+---------+--------+
2 rows in set (0.00 sec)
```

(xvi) List the name of the course and the number of students registered in each slot for course under different faculty members.

(xvii) Find out the name of the students who have registered in all the courses being taught by Prof. Tutum in Winter 22 (Winter 2022).

```
mysql> select s.sname from student s,professor p,enroll e
    -> where e.reg_no=s.reg_no and
    -> p.prof_id=s.prof_id and
    -> p.prof_name='Tutum' and
    -> month(e.enroll_time)=1 and
    -> year(e.enroll_time)=2022;
+--------+
| sname  |
+--------+
| Hula   |
| Kak    |
+--------+
2 rows in set (0.00 sec)
```

(xviii) List the registration number of the students who registered in MSc Bio course on August 26, 2021.

```
mysql> select s.reg_no from student s,enroll e
    -> where date(e.enroll_time)='2021-08-26' and
    -> s.reg_no=e.reg_no and
    -> e.cls_code in
    -> (select c.cls_code from class c,course co
    -> where c.crs_code=co.crs_code and
    -> co.crs_name='MSc Bio');
+---------+
| reg_no  |
+---------+
| 21MSB1  |
+---------+
1 row in set (0.00 sec)
```

(xix) Write a query to display the grade of a student given his/her registration number and the course name for Fall semester 21 (Fall 2021).(Assuming reg_no is 21MCA1 and course is MCA)

```
mysql> select e.grade from enroll e,class c,course co
    -> where e.cls_code=c.cls_code and
    -> c.crs_code=co.crs_code and
    -> month(e.enroll_time)=8 and
    -> year(e.enroll_time)=2021 and
    -> e.reg_no='21MCA2' and
    -> co.crs_name='MCA';
+--------+
| grade  |
+--------+
| A      |
+--------+
1 row in set (0.00 sec)
```

(xx) List the name of departments and the name professors who is in charge of the department.

```
mysql> select d.dept_id,d.dname,p.prof_id,p.prof_name
    -> from department d,professor p
    -> where p.prof_id=d.prof_id;
+---------+----------+---------+-----------+
| dept_id | dname    | prof_id | prof_name |
+---------+----------+---------+-----------+
|    1234 | Maths    |   10000 | Sethi     |
|    1235 | Computer |   10001 | Obhai     |
|    1236 | Biology  |   10003 | Eire      |
|    1237 | Physics  |   10005 | Niyaaa    |
|    1238 | Chem     |   10008 | Juto      |
+---------+----------+---------+-----------+
5 rows in set (0.00 sec)
```

(xxi) List the name of schools with students strength higher than 3.

create view dept_scl as select
d.dept_id,d.dname,s.scode,s.scl_name,d.prof_id from department d
inner join school s on d.scode=s.scode;

select count(s.reg_no),sc.scl_name from student s,dept_scl sc where
s.dept_id=sc.dept_id group by sc.dept_id;

```
+------------------+-----------------+
| count(s.reg_no)  | scl_name        |
+------------------+-----------------+
|                4 | Maths School    |
|                4 | Computer School |
|                4 | Biology School  |
|                4 | Physics School  |
|                4 | Chemistry School|
+------------------+-----------------+
5 rows in set (0.00 sec)
```

(xxii) List the name of the department(s) under school of medicine with student strength higher than the average students of all the departments in the school

(xxiii) Given the registration number of a student, display the total credits registered by him/her in Winter 22 (Winter 2022).

select sum(co.credits) from course co,enroll e,class c where co.crs_code=c.crs_code and e.cls_code=c.cls_code and e.reg_no='22BSP1' and month(e.enroll_time)=1 and year(e.enroll_time)=2022;

```
+------------------+
| sum(co.credits)  |
+------------------+
|              24  |
+------------------+
1 row in set (0.00 sec)
```

(xxiv) Given the registration number of a student, display her/his grade in the course she/he registered in Fall 21 (Fall 2021).

select sum(co.credits) from course co,enroll e,class c where co.crs_code=c.crs_code and e.cls_code=c.cls_code and e.reg_no='21MCA2' and month(e.enroll_time)=8 and year(e.enroll_time)=2021;

```
+------------------+
| sum(co.credits)  |
+------------------+
|              27  |
+------------------+
1 row in set (0.00 sec)
```

(xxv) Display the name of the courses that are not being offered in Winter 22 (Winter 2022).

select co.crs_name from course co,class c,enroll e where

co.crs_code=c.crs_code and e.cls_code=c.cls_code and e.enroll_time
not like '2022-01-%';

```
+------------+
| crs_name   |
+------------+
| MCA        |
| MSc Math   |
| BSc Math   |
| MSc Chem   |
| MSc Bio    |
| MCA        |
| MSc Math   |
| BSc Math   |
| MSc Chem   |
| MSc Bio    |
+------------+
10 rows in set (0.00 sec)
```

(xxvi) Write necessary SQL statement to advance the start time and end time of every class by ten minutes in Fall 21 (Fall 2021).

```
mysql> select date_add(c.stime,interval 10 minute),
    -> date_add(c.etime,interval 10 minute)
    -> from class c,enroll e where
    -> e.cls_code=c.cls_code and
    -> e.enroll_time like '2021-08-%';
+--------------------------------------+--------------------------------------+
| date_add(c.stime,interval 10 minute) | date_add(c.etime,interval 10 minute) |
+--------------------------------------+--------------------------------------+
| 09:10:00                             | 10:10:00                             |
| 11:10:00                             | 12:10:00                             |
| 12:10:00                             | 13:10:00                             |
| 09:10:00                             | 10:10:00                             |
| 11:10:00                             | 12:10:00                             |
| 11:10:00                             | 12:10:00                             |
| 09:10:00                             | 10:10:00                             |
| 10:10:00                             | 11:10:00                             |
| 11:10:00                             | 12:10:00                             |
| 09:10:00                             | 10:10:00                             |
+--------------------------------------+--------------------------------------+
10 rows in set (0.00 sec)
```

(xxvii) Write necessary SQL statement to advance the start date and end date of Fall 18–19 semester by one week with respect to Fall semester of 21 (Fall 2021).

(xxviii) Find out the name list of students who had secured 'S' grade.

select s.sname,e.grade from enroll e,student s where e.reg_no=s.reg_no and e.grade='S';

```
+---------+---------+
| sname   | grade   |
+---------+---------+
| Atup    | S       |
| Kaju    | S       |
| Dude    | S       |
| Tiya    | S       |
| Kak     | S       |
+---------+---------+
5 rows in set (0.00 sec)
```

(xxix) Given the registration number of a student, find out his/her free slots.

select c.slot from class c,enroll e where c.cls_code=e.cls_code and e.reg_no not like '22BCA2';

```
+------+
| slot |
+------+
|    4 |
|    2 |
|    1 |
|    3 |
|    3 |
|    1 |
|    1 |
|    3 |
|    3 |
|    1 |
|    2 |
|    4 |
|    2 |
|    2 |
|    4 |
|    2 |
|    4 |
|    1 |
|    3 |
+------+
19 rows in set (0.00 sec)
```

(xxx) Find out the name list of students who have classes in the afternoon session only on a specific day of the week.

select s.sname from student s,enroll e,class c where
e.cls_code=c.cls_code and s.reg_no=e.reg_no and hour(c.stime)=12
and c.day_of_week='Tue';

(xxxi) Add a column named 'Duration' (to indicate duration of a class) with appropriate data type to the CLASS table and populate the column from values of start time and end time columns.

alter table class add column Duration time(0) after Etime;

(xxxii) Add a column named 'SemesterDuration' (indicating duration of a semester) with appropriate data type to the SEMESTER table and populate the column from vlues of start date and end date columns.

alter table semester add column SemesterDuration date;

(xxxiii) Find out the list of students who are undergoing MCA program.

```
mysql> select s.sname from
    -> student s,enroll e,
    -> class c,course co where
    -> e.reg_no=s.reg_no and
    -> e.cls_code=c.cls_code and
    -> c.crs_code=co.crs_code and
    -> co.crs_name='MCA';
+--------+
| sname  |
+--------+
| Atup   |
| Evin   |
+--------+
2 rows in set (0.00 sec)
```

(xxxiv) Display the name of programs and the name of school offering the program.

```
mysql> select s.scl_name,p.prog_name
    -> from programme p,school s
    -> where s.scode=p.scode;
+------------------+-----------+
| scl_name         | prog_name |
+------------------+-----------+
| Biology School   | Bioprog   |
| Chemistry School | Chemprog  |
| Computer School  | CSprog    |
| Maths School     | Mathprog  |
| Physics School   | Phyprog   |
+------------------+-----------+
5 rows in set (0.00 sec)
```

(xxxv) Display the name of the departments and the name of the

program controlled by the department.

```
mysql> select s.dname,p.prog_name
    -> from programme p,department s
    -> where s.dept_id=p.dept_id;
+------------+------------+
| dname      | prog_name  |
+------------+------------+
| Biology    | Bioprog    |
| Chem       | Chemprog   |
| Computer   | CSprog     |
| Maths      | Mathprog   |
| Physics    | Phyprog    |
+------------+------------+
5 rows in set (0.00 sec)
```

4. (i) Test the string manipulation functions – UPPER, LOWER, INITCAP, LENGTH, LPAD, RPAD, LTRIM, RTRIM and TRIM, using select queries on data present in the tables. Use one query each for demonstration of one function.

```
mysql> select RTRIM('   12DBMS   ');
+-------------------+
| RTRIM('   12DBMS   ') |
+-------------------+
|    12DBMS         |
+-------------------+
1 row in set (0.00 sec)

mysql> select LENGTH('DBMS   ');
+------------------+
| LENGTH('DBMS   ') |
+------------------+
|                6 |
+------------------+
1 row in set (0.00 sec)

mysql> select UPPER('DbMs');
+---------------+
| UPPER('DbMs') |
+---------------+
| DBMS          |
+---------------+
1 row in set (0.01 sec)

mysql> select LOWER('DbMs');
+---------------+
| LOWER('DbMs') |
+---------------+
| dbms          |
+---------------+
1 row in set (0.00 sec)
```

```
mysql> select TRIM(LEADING 'A' FROM 'AADBMS');
+--------------------------------+
| TRIM(LEADING 'A' FROM 'AADBMS') |
+--------------------------------+
| DBMS                           |
+--------------------------------+
1 row in set (0.00 sec)

mysql> select RPAD('DBMS', 8, '5');
+----------------------+
| RPAD('DBMS', 8, '5') |
+----------------------+
| DBMS5555             |
+----------------------+
1 row in set (0.00 sec)

mysql> select LTRIM('  12DBMS  ');
+-------------------+
| LTRIM('  12DBMS  ') |
+-------------------+
| 12DBMS            |
+-------------------+
1 row in set (0.00 sec)

mysql> select LPAD('DBMS', 8, '5');
+----------------------+
| LPAD('DBMS', 8, '5') |
+----------------------+
| 5555DBMS             |
+----------------------+
1 row in set (0.00 sec)
```

(ii) Write query to illustrate usage of NVL function and NULLIF function.

select id,coalesce(value,0) nvl from check_nvl;

```
+----+-----+
| id | nvl |
+----+-----+
|  1 |  76 |
|  2 |   0 |
|  3 |  56 |
+----+-----+
3 rows in set (0.00 sec)
```

select id,nullif(value,0) nullif from check_nvl;

```
+----+--------+
| id | nullif |
+----+--------+
|  1 |     76 |
|  2 |   NULL |
|  3 |     56 |
+----+--------+
3 rows in set (0.00 sec)
```

(iii) Display the name of the students who were born on a specified month.

select sname from student where month(dob)=3;

```
+--------+
| sname  |
+--------+
| EKri   |
+--------+
1 row in set (0.00 sec)
```

(iv) Display the name of the students with a specified date of birth.

select sname from student where dob='2000-09-17';

```
+--------+
| sname  |
+--------+
| Bil    |
+--------+
1 row in set (0.00 sec)
```

(v) Display the date of birth of a specified student in the format 'Day of week, Month dd, yyyy'.

select date_format(dob,'%a, %M %e, %Y') as 'Day of week, month date, year' from student where reg_no='21MSM1';

```
+-------------------------------+
| Day of week, month date, year |
+-------------------------------+
| Mon, January 17, 2000         |
+-------------------------------+
1 row in set (0.00 sec)
```

(vi) Display the hour and minutes of the start time and end time of a specified slot.

select date_format(stime,'%H hrs %i mins')
starttime,date_format(etime,'%H hrs %i mins') endtime from class
where slot=3;

```
+-------------------+-------------------+
| starttime         | endtime           |
+-------------------+-------------------+
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
| 11 hrs 00 mins    | 12 hrs 00 mins    |
+-------------------+-------------------+
10 rows in set (0.00 sec)
```

(vii) Display the day of week of the start date and end date of Winter semester 22 (Winter 2022)

select dayofweek(sdate) startdate,dayofweek(edate) enddate from semester where term='Winter';

```
+-----------+----------+
| startdate | enddate  |
+-----------+----------+
|         2 |        1 |
+-----------+----------+
1 row in set (0.00 sec)
```

(viii) Display the duration of Winter semester 17–18 (Winter 2018) in terms of number of weeks.

select week(edate)-week(sdate) as 'Duration(weeks)' from semester where term='Winter';

```
+-------------------+
| Duration(weeks)   |
+-------------------+
|               19  |
+-------------------+
1 row in set (0.00 sec)
```

5. Create a sequence that starts with 1000 and is incremented by 1. Use this sequence in the following table for entering information about at least three customers.

CUSTOMER(Cus_code, Cus_name, Cus_address, Cus_mobile)

```
mysql> create table Customer(
    -> Cus_code int not null primary key auto_increment,
    -> Cus_name varchar(10),
    -> Cus_address varchar(13),
    -> Cus_mobile int);
Query OK, 0 rows affected (0.02 sec)

mysql> alter table Customer auto_increment=1000;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc customer;
+-------------+-------------+------+-----+---------+----------------+
| Field       | Type        | Null | Key | Default | Extra          |
+-------------+-------------+------+-----+---------+----------------+
| Cus_code    | int         | NO   | PRI | NULL    | auto_increment |
| Cus_name    | varchar(10) | YES  |     | NULL    |                |
| Cus_address | varchar(13) | YES  |     | NULL    |                |
| Cus_mobile  | int         | YES  |     | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)

mysql> insert into Customer(Cus_name,Cus_address,Cus_mobile) values
    -> ('Hojberg','W H Lane',1000000001);
Query OK, 1 row affected (0.01 sec)

mysql> insert into Customer(Cus_name,Cus_address,Cus_mobile) values
    -> ('Nketiah','Emirates',1000000002),
    -> ('Zaha','Selhurst',1000000003);
Query OK, 2 rows affected (0.00 sec)
Records: 2  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Customer;
+----------+----------+------------+------------+
| Cus_code | Cus_name | Cus_address | Cus_mobile |
+----------+----------+------------+------------+
|     1000 | Hojberg  | W H Lane   | 1000000001 |
|     1001 | Nketiah  | Emirates   | 1000000002 |
|     1002 | Zaha     | Selhurst   | 1000000003 |
+----------+----------+------------+------------+
3 rows in set (0.00 sec)
```