GAGAN KUMAR SONI

ROLL: 21

SEMESTER: 2nd

MSc COMPUTER SCIENCE,

DEPARTMENT OF COMPUTER SCIENCE,

UNIVERSITY OF DELHI

```
MariaDB [universityNew]> show tables;
+-------------------------+
| Tables_in_universitynew |
+-------------------------+
| advisor                 |
| course                  |
| department              |
| instructor              |
| section                 |
| student                 |
| takes                   |
| teaches                 |
+-------------------------+
8 rows in set (0.001 sec)
```

```
MariaDB [universityNew]> desc advisor;
+-------+------------+------+-----+---------+-------+
| Field | Type       | Null | Key | Default | Extra |
+-------+------------+------+-----+---------+-------+
| S_ID  | varchar(5) | NO   | PRI | NULL    |       |
| I_ID  | int(11)    | NO   | MUL | NULL    |       |
+-------+------------+------+-----+---------+-------+
2 rows in set (0.032 sec)
```

```
MariaDB [universitynew]> select * from advisor;
+------+------+
| S_ID | I_ID |
+------+------+
|    1 |    1 |
|   15 |    1 |
|   21 |    1 |
|    3 |    2 |
|    8 |    2 |
|   14 |    2 |
|   24 |    2 |
|   25 |    2 |
|   12 |    3 |
|   13 |    3 |
|    2 |    4 |
|    9 |    4 |
|   30 |    5 |
|    5 |    6 |
|   20 |    6 |
|    4 |    7 |
|   10 |    7 |
|   22 |    7 |
|   23 |    7 |
|   18 |    8 |
|   16 |    9 |
|   27 |    9 |
|   26 |   10 |
|    6 |   11 |
|   11 |   11 |
|    7 |   12 |
|   29 |   12 |
|   17 |   13 |
|   19 |   13 |
|   28 |   13 |
+------+------+
30 rows in set (0.000 sec)
```

```
MariaDB [universityNew]> desc course;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| Course_ID | varchar(8)  | NO   | PRI | NULL    |       |
| Title     | varchar(50) | YES  |     | NULL    |       |
| Dept_name | varchar(20) | YES  | MUL | NULL    |       |
| Credits   | int(11)     | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.028 sec)
```

```
MariaDB [universityNew]> select * from course;
+-----------+----------------------+------------------+---------+
| Course_ID | Title                | Dept_name        | Credits |
+-----------+----------------------+------------------+---------+
| BS        | BS Statistics        | Statistics       |     300 |
| BSB       | BS Botany            | Botany           |     300 |
| BSc       | BSc Mathematics      | Mathematics      |     260 |
| MA        | MA English           | Literature       |     120 |
| MS        | MSc Computer Science | Computer Science |     140 |
| MTech     | MTech CS             | Computer Science |     150 |
+-----------+----------------------+------------------+---------+
6 rows in set (0.001 sec)
```

```
MariaDB [universityNew]> desc department;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| Dept_name | varchar(20)  | NO   | PRI | NULL    |       |
| Building  | varchar(15)  | YES  |     | NULL    |       |
| Budget    | decimal(12,2)| YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
3 rows in set (0.025 sec)

MariaDB [universityNew]> select * from department;
+------------------+----------+-------------+
| Dept_name        | Building | Budget      |
+------------------+----------+-------------+
| Botany           | LT-4     | 20000000.00 |
| Computer Science | LT-1     | 10000000.00 |
| Literature       | LT-3     | 50000000.00 |
| Mathematics      | LT-2     | 40000000.00 |
| Statistics       | LT-1     |  9000000.00 |
+------------------+----------+-------------+
5 rows in set (0.001 sec)
```

```
MariaDB [universityNew]> desc instructor;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| ID        | int(11)      | NO   | PRI | NULL    |       |
| Name      | varchar(20)  | NO   |     | NULL    |       |
| Dept_name | varchar(20)  | NO   | MUL | NULL    |       |
| Salary    | decimal(8,2) | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
4 rows in set (0.028 sec)
```

```
MariaDB [universityNew]> select * from instructor;
+----+------------+------------------+-----------+
| ID | Name       | Dept_name        | Salary    |
+----+------------+------------------+-----------+
|  1 | Vikas      | Computer Science | 100000.00 |
|  2 | Bharti     | Computer Science | 100000.00 |
|  3 | Vasudha    | Computer Science | 100000.00 |
|  4 | Mukesh     | Mathematics      | 100000.00 |
|  5 | Awadhesh   | Mathematics      | 100000.00 |
|  6 | Naveen     | Mathematics      | 100000.00 |
|  7 | Akhilesh   | Statistics       | 100000.00 |
|  8 | Poonam     | Statistics       | 100000.00 |
|  9 | Manisha    | Literature       | 100000.00 |
| 10 | Geeta      | Literature       | 100000.00 |
| 11 | Jitendra   | Literature       | 100000.00 |
| 12 | Madhoolika | Botany           | 100000.00 |
| 13 | Kuldeep    | Botany           | 100000.00 |
+----+------------+------------------+-----------+
13 rows in set (0.001 sec)
```

```
MariaDB [universityNew]> desc section;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| Course_ID    | varchar(8)  | NO   | PRI | NULL    |       |
| Sec_ID       | varchar(8)  | NO   | PRI | NULL    |       |
| Semester     | varchar(6)  | NO   | PRI | NULL    |       |
| Year         | int(11)     | NO   | PRI | NULL    |       |
| Building     | varchar(15) | NO   |     | NULL    |       |
| Room_number  | varchar(7)  | NO   |     | NULL    |       |
| Time_slot_id | varchar(10) | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
7 rows in set (0.028 sec)
```

```
MariaDB [universityNew]> select * from section;
+-----------+--------+----------+------+----------+-------------+--------------+
| Course_ID | Sec_ID | Semester | Year | Building | Room_number | Time_slot_id |
+-----------+--------+----------+------+----------+-------------+--------------+
| BS        | A      | 1        |    1 | LT-1     | LT-1A       | 09 AM-11 A   |
| BS        | A      | 2        |    1 | LT-1     | LT-1A       | 11 AM-01 P   |
| BS        | B      | 3        |    2 | LT-1     | LT-1A       | 01 PM-03 P   |
| BS        | B      | 4        |    2 | LT-1     | LT-1A       | 03 PM-05 P   |
| BS        | C      | 5        |    3 | LT-1     | LT-1B       | 09 AM-01 P   |
| BS        | C      | 6        |    3 | LT-1     | LT-1B       | 01 PM-05 P   |
| BSB       | A      | 1        |    1 | LT-4     | LT-4A       | 09 AM-11 A   |
| BSB       | A      | 2        |    1 | LT-4     | LT-4A       | 11 AM-01 P   |
| BSB       | B      | 3        |    2 | LT-4     | LT-4A       | 01 PM-03 P   |
| BSB       | B      | 4        |    2 | LT-4     | LT-4A       | 03 PM-05 P   |
| BSB       | C      | 5        |    3 | LT-4     | LT-4B       | 09 AM-01 P   |
| BSB       | C      | 6        |    3 | LT-4     | LT-4B       | 01 PM-05 P   |
| BSc       | A      | 1        |    1 | LT-2     | LT-2A       | 09 AM-11 A   |
| BSc       | A      | 2        |    1 | LT-2     | LT-2A       | 11 AM-01 P   |
| BSc       | B      | 3        |    2 | LT-2     | LT-2A       | 01 PM-03 P   |
| BSc       | B      | 4        |    2 | LT-2     | LT-2A       | 03 PM-05 P   |
| BSc       | C      | 5        |    3 | LT-2     | LT-2B       | 09 AM-01 P   |
| BSc       | C      | 6        |    3 | LT-2     | LT-2B       | 01 PM-05 P   |
| MA        | A      | 1        |    1 | LT-3     | LT-3A       | 09 AM-01 P   |
| MA        | A      | 2        |    1 | LT-3     | LT-3A       | 01 PM-05 P   |
| MA        | B      | 3        |    2 | LT-3     | LT-3B       | 09 AM-01 P   |
| MA        | B      | 4        |    2 | LT-3     | LT-3B       | 01 PM-05 P   |
| MS        | A      | 1        |    1 | LT-1     | LT-1C       | 09 AM-01 P   |
| MS        | A      | 2        |    1 | LT-1     | LT-1C       | 01 PM-05 P   |
| MS        | B      | 3        |    2 | LT-1     | LT-1D       | 09 AM-01 P   |
| MS        | B      | 4        |    2 | LT-1     | LT-1D       | 01 PM-05 P   |
| MTech     | A      | 1        |    1 | LT-1     | LT-1E       | 09 AM-01 P   |
| MTech     | A      | 2        |    1 | LT-1     | LT-1E       | 01 PM-05 P   |
| MTech     | B      | 3        |    2 | LT-1     | LT-1F       | 09 AM-01 P   |
| MTech     | B      | 4        |    2 | LT-1     | LT-1F       | 01 PM-05 P   |
+-----------+--------+----------+------+----------+-------------+--------------+
```

```
MariaDB [universityNew]> desc student;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| ID        | varchar(5)  | NO   | PRI | NULL    |       |
| Name      | varchar(20) | NO   |     | NULL    |       |
| Dept_name | varchar(20) | YES  | MUL | NULL    |       |
| Tot_cred  | int(11)     | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.033 sec)
```

```
MariaDB [universityNew]> select * from student;
+----+-----------+------------------+----------+
| ID | Name      | Dept_name        | Tot_cred |
+----+-----------+------------------+----------+
|  1 | Aditya    | Computer Science |     NULL |
| 10 | Stuti     | Statistics       |     NULL |
| 11 | Ashish    | Literature       |     NULL |
| 12 | Akash     | Computer Science |     NULL |
| 13 | Abhinav   | Computer Science |     NULL |
| 14 | Sudeepto  | Computer Science |     NULL |
| 15 | Kinshuk   | Computer Science |     NULL |
| 16 | Aviral    | Literature       |     NULL |
| 17 | Apurva    | Botany           |     NULL |
| 18 | Sunil     | Statistics       |     NULL |
| 19 | Shubham   | Botany           |     NULL |
|  2 | Akanksha  | Mathematics      |     NULL |
| 20 | Vallabh   | Mathematics      |     NULL |
| 21 | Gagan     | Computer Science |     NULL |
| 22 | Adarsh    | Statistics       |     NULL |
| 23 | Neha      | Statistics       |     NULL |
| 24 | Stuti     | Computer Science |     NULL |
| 25 | Adamya    | Computer Science |     NULL |
| 26 | Abhishek  | Literature       |     NULL |
| 27 | Divya     | Literature       |     NULL |
| 28 | Rohan     | Botany           |     NULL |
| 29 | Rahul     | Botany           |     NULL |
|  3 | Akshita   | Computer Science |     NULL |
| 30 | Rishabh   | Mathematics      |     NULL |
|  4 | Anjali    | Statistics       |     NULL |
|  5 | Devanshu  | Mathematics      |     NULL |
|  6 | Divyanshu | Literature       |     NULL |
|  7 | Harshit   | Botany           |     NULL |
|  8 | Jagriti   | Computer Science |     NULL |
|  9 | Tanuja    | Mathematics      |     NULL |
+----+-----------+------------------+----------+
```

```
MariaDB [universityNew]> desc takes;
+-----------+------------+------+-----+---------+-------+
| Field     | Type       | Null | Key | Default | Extra |
+-----------+------------+------+-----+---------+-------+
| ID        | varchar(5) | NO   | PRI | NULL    |       |
| Course_ID | varchar(8) | NO   | PRI | NULL    |       |
| Sec_ID    | varchar(8) | NO   | PRI | NULL    |       |
| Semester  | varchar(6) | NO   | PRI | NULL    |       |
| Year      | int(11)    | NO   | PRI | NULL    |       |
| Grade     | varchar(2) | YES  |     | NULL    |       |
+-----------+------------+------+-----+---------+-------+
6 rows in set (0.025 sec)
```

```
MariaDB [universitynew]> select * from takes;
+----+-----------+--------+----------+------+-------+
| ID | Course_ID | Sec_ID | Semester | Year | Grade |
+----+-----------+--------+----------+------+-------+
| 1  | MS        | A      | 1        |    1 | NULL  |
| 10 | BS        | B      | 4        |    2 | NULL  |
| 11 | MA        | A      | 1        |    1 | NULL  |
| 12 | MS        | B      | 3        |    2 | NULL  |
| 13 | MS        | A      | 1        |    1 | NULL  |
| 14 | MTech     | B      | 4        |    2 | NULL  |
| 15 | MTech     | B      | 4        |    2 | NULL  |
| 16 | MA        | A      | 2        |    1 | NULL  |
| 17 | BSB       | A      | 2        |    1 | NULL  |
| 18 | BS        | C      | 6        |    3 | NULL  |
| 19 | BSB       | B      | 4        |    2 | NULL  |
| 2  | BSc       | A      | 1        |    1 | NULL  |
| 20 | BSc       | C      | 5        |    3 | NULL  |
| 21 | MS        | B      | 4        |    2 | NULL  |
| 22 | BS        | C      | 5        |    3 | NULL  |
| 23 | BS        | C      | 6        |    3 | NULL  |
| 24 | MS        | B      | 4        |    2 | NULL  |
| 25 | MTech     | A      | 2        |    1 | NULL  |
| 26 | MA        | B      | 3        |    2 | NULL  |
| 27 | MA        | A      | 1        |    1 | NULL  |
| 28 | BSB       | C      | 5        |    3 | NULL  |
| 29 | BSB       | B      | 3        |    2 | NULL  |
| 3  | MS        | B      | 3        |    2 | NULL  |
| 30 | BSc       | C      | 5        |    3 | NULL  |
| 4  | BS        | A      | 2        |    1 | NULL  |
| 5  | BSc       | B      | 3        |    2 | NULL  |
| 6  | MA        | A      | 1        |    1 | NULL  |
| 7  | BSB       | A      | 2        |    1 | NULL  |
| 8  | MTech     | A      | 1        |    1 | NULL  |
| 9  | BSc       | A      | 2        |    1 | NULL  |
+----+-----------+--------+----------+------+-------+
30 rows in set (0.005 sec)
```

```
MariaDB [universityNew]> desc teaches;
+-----------+------------+------+-----+---------+-------+
| Field     | Type       | Null | Key | Default | Extra |
+-----------+------------+------+-----+---------+-------+
| ID        | int(11)    | NO   | PRI | NULL    |       |
| Course_ID | varchar(8) | NO   | PRI | NULL    |       |
| Sec_ID    | varchar(8) | NO   | PRI | NULL    |       |
| Semester  | varchar(6) | NO   | PRI | NULL    |       |
| Year      | int(11)    | NO   | PRI | NULL    |       |
+-----------+------------+------+-----+---------+-------+
5 rows in set (0.030 sec)
```

6

```
MariaDB [universitynew]> select * from teaches;
+----+-----------+--------+----------+------+
| ID | Course_ID | Sec_ID | Semester | Year |
+----+-----------+--------+----------+------+
|  1 | MS        | A      | 1        |    1 |
|  1 | MTech     | B      | 3        |    2 |
|  1 | MTech     | B      | 4        |    2 |
|  2 | MS        | A      | 2        |    1 |
|  2 | MS        | B      | 3        |    2 |
|  2 | MS        | B      | 4        |    2 |
|  3 | MS        | A      | 2        |    1 |
|  3 | MS        | B      | 3        |    2 |
|  3 | MTech     | A      | 1        |    1 |
|  3 | MTech     | A      | 2        |    1 |
|  4 | BSc       | A      | 1        |    1 |
|  4 | BSc       | B      | 3        |    2 |
|  4 | BSc       | C      | 5        |    3 |
|  5 | BSc       | A      | 2        |    1 |
|  5 | BSc       | B      | 3        |    2 |
|  5 | BSc       | C      | 5        |    3 |
|  6 | BSc       | A      | 1        |    1 |
|  6 | BSc       | B      | 4        |    2 |
|  6 | BSc       | C      | 5        |    3 |
|  6 | BSc       | C      | 6        |    3 |
|  7 | BS        | A      | 1        |    1 |
|  7 | BS        | B      | 3        |    2 |
|  7 | BS        | C      | 5        |    3 |
|  8 | BS        | A      | 2        |    1 |
|  8 | BS        | B      | 4        |    2 |
|  8 | BS        | C      | 6        |    3 |
|  9 | MA        | A      | 1        |    1 |
|  9 | MA        | A      | 2        |    1 |
|  9 | MA        | B      | 3        |    2 |
| 10 | MA        | B      | 3        |    2 |
| 11 | MA        | B      | 4        |    2 |
| 12 | BSB       | A      | 1        |    1 |
| 12 | BSB       | A      | 2        |    1 |
| 12 | BSB       | B      | 3        |    2 |
| 12 | BSB       | C      | 5        |    3 |
| 13 | BSB       | A      | 2        |    1 |
| 13 | BSB       | B      | 4        |    2 |
| 13 | BSB       | C      | 5        |    3 |
| 13 | BSB       | C      | 6        |    3 |
+----+-----------+--------+----------+------+
39 rows in set (0.003 sec)
```