Practical-3

```
mysql> create database s;
Query OK, 1 row affected (0.00 sec)

mysql> use s;
Database changed

mysql> CREATE TABLE departments (dept_id INT AUTO_INCREMENT PRIMARY KEY, dept_name
VARCHAR(100) NOT NULL);
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE students (student_id INT AUTO_INCREMENT PRIMARY KEY, first_name
VARCHAR(50), last_name VARCHAR(50), age INT, dept_id INT, FOREIGN KEY (dept_id) REFERENCES
departments(dept_id));
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE courses (course_id INT AUTO_INCREMENT PRIMARY KEY, course_name
VARCHAR(100), dept_id INT, FOREIGN KEY (dept_id) REFERENCES departments(dept_id));
Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO departments (dept_name) VALUES ('Computer Science'), ('Mechanical'),
('Electrical');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> INSERT INTO students (first_name, last_name, age, dept_id) VALUES ('Aniket', 'Kamble', 20,
1), ('Sneha', 'Sharma', 19, 2), ('Amit', 'Kumar', 21, 1), ('Priya', 'Desai', 18, 3), ('Vikas', 'Singh', 22, 1);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> INSERT INTO courses (course_name, dept_id) VALUES ('Database Systems', 1), ('Data
Structures', 1), ('Thermodynamics', 2), ('Circuit Analysis', 3), ('Operating Systems', 1);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> SELECT s.first_name, s.last_name, d.dept_name FROM students s INNER JOIN departments d
ON s.dept_id = d.dept_id;
+------------+-----------+------------------+
| first_name | last_name | dept_name        |
+------------+-----------+------------------+
| Aniket     | Kamble    | Computer Science |
| Sneha      | Sharma    | Mechanical       |
| Amit       | Kumar     | Computer Science |
| Priya      | Desai     | Electrical       |
| Vikas      | Singh     | Computer Science |
+------------+-----------+------------------+
5 rows in set (0.00 sec)

mysql> SELECT s.first_name, d.dept_name FROM students s LEFT JOIN departments d ON s.dept_id =
d.dept_id;
```

```
+------------+------------------+
| first_name | dept_name        |
+------------+------------------+
| Aniket     | Computer Science |
| Sneha      | Mechanical       |
| Amit       | Computer Science |
| Priya      | Electrical       |
| Vikas      | Computer Science |
+------------+------------------+
5 rows in set (0.00 sec)

mysql> SELECT d.dept_name, s.first_name FROM students s RIGHT JOIN departments d ON s.dept_id
= d.dept_id;
+------------------+------------+
| dept_name        | first_name |
+------------------+------------+
| Computer Science | Aniket     |
| Mechanical       | Sneha      |
| Computer Science | Amit       |
| Electrical       | Priya      |
| Computer Science | Vikas      |
+------------------+------------+
5 rows in set (0.00 sec)

mysql> SELECT a.first_name AS Student1, b.first_name AS Student2, a.dept_id FROM students a JOIN
students b ON a.dept_id = b.dept_id WHERE a.student_id < b.student_id;
+----------+----------+---------+
| Student1 | Student2 | dept_id |
+----------+----------+---------+
| Aniket   | Amit     |       1 |
| Aniket   | Vikas    |       1 |
| Amit     | Vikas    |       1 |
+----------+----------+---------+
3 rows in set (0.00 sec)

mysql> SELECT first_name, age FROM students WHERE age = (SELECT MAX(age) FROM students s
JOIN departments d ON s.dept_id = d.dept_id WHERE d.dept_name = 'Computer Science');
+------------+------+
| first_name | age  |
+------------+------+
| Vikas      |   22 |
+------------+------+
1 row in set (0.00 sec)

mysql> CREATE VIEW student_details AS SELECT s.student_id, s.first_name, s.last_name, s.age,
d.dept_name FROM students s JOIN departments d ON s.dept_id = d.dept_id;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> SELECT * FROM student_details;
+------------+------------+-----------+------+------------------+
| student_id | first_name | last_name | age  | dept_name        |
+------------+------------+-----------+------+------------------+
|          1 | Aniket     | Kamble    |   20 | Computer Science |
|          2 | Sneha      | Sharma    |   19 | Mechanical       |
|          3 | Amit       | Kumar     |   21 | Computer Science |
|          4 | Priya      | Desai     |   18 | Electrical       |
|          5 | Vikas      | Singh     |   22 | Computer Science |
+------------+------------+-----------+------+------------------+
5 rows in set (0.00 sec)
```