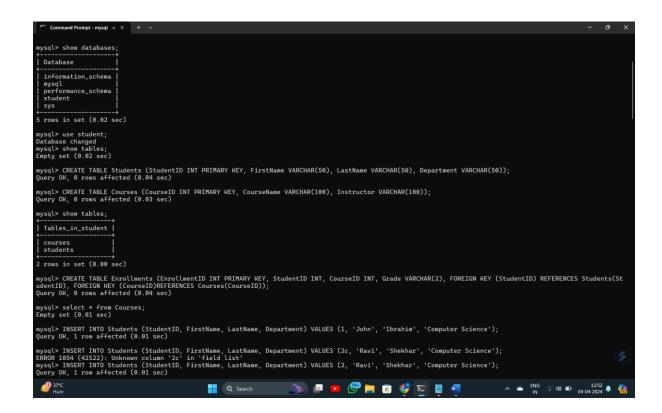
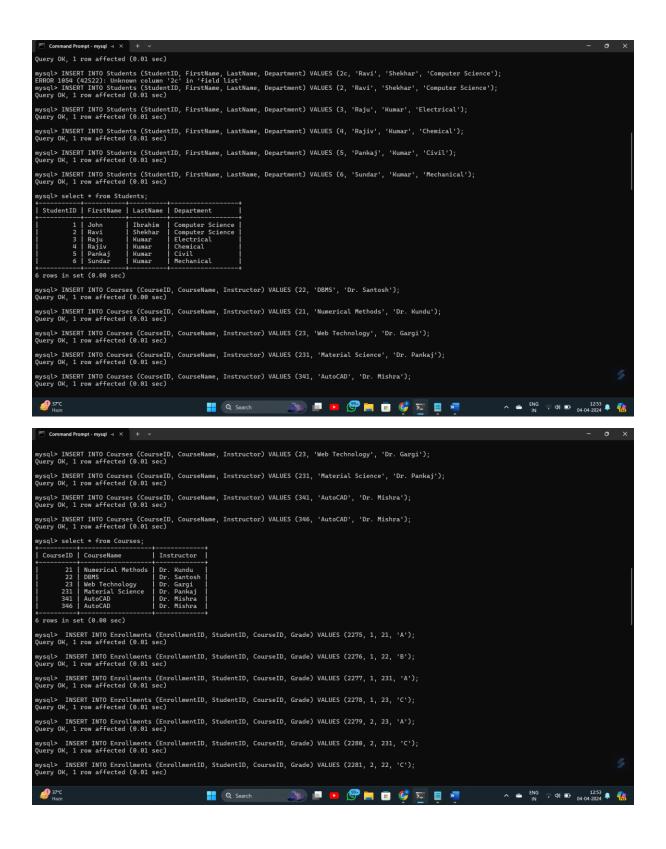
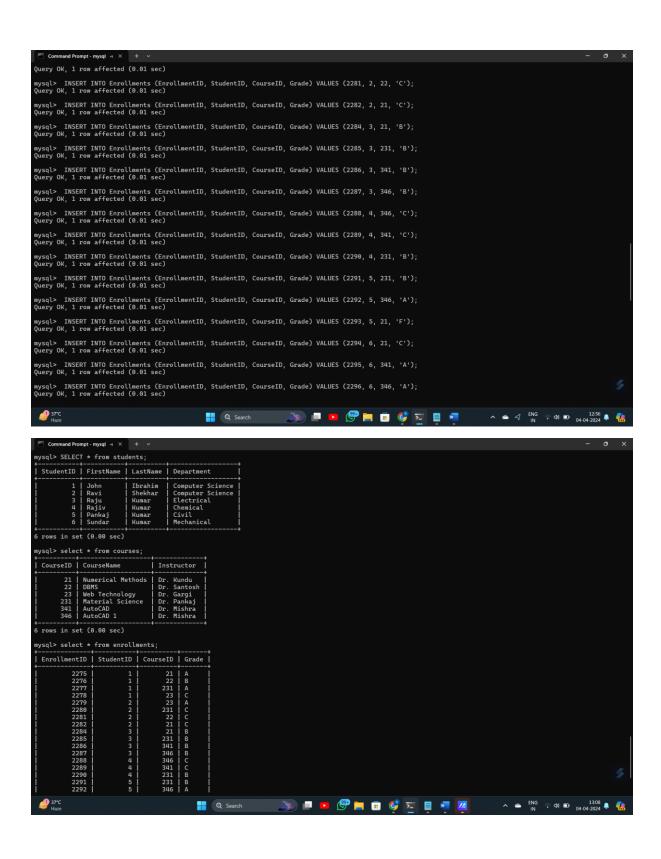
DBMS LAB

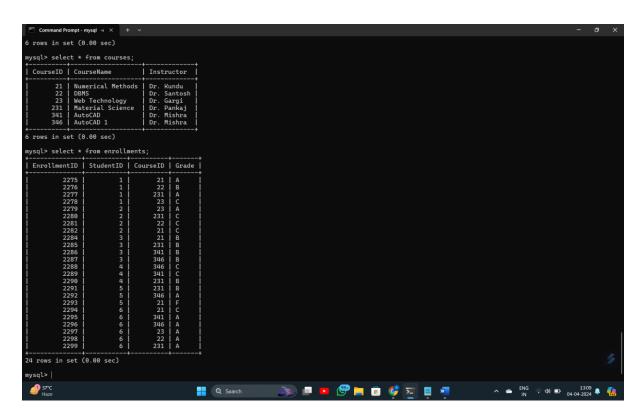
Name – RAVI SHEKHAR

Roll No. - 22CS3075



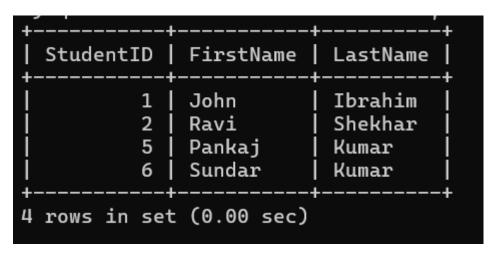






1.

SELECT DISTINCT s.StudentID, s.FirstName, s.LastName FROM Students s JOIN Enrollments e ON s.StudentID = e.StudentID WHERE e.Grade = 'A';



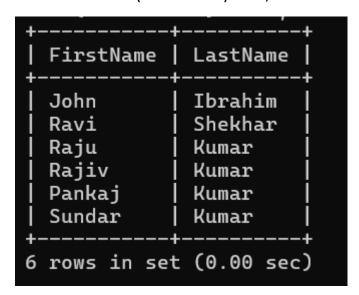
2.

SELECT c.CourseName, COUNT(e.StudentID) AS NumberOfStudents FROM Courses c LEFT JOIN Enrollments e ON c.CourseID = e.CourseID GROUP BY c.CourseName ORDER BY NumberOfStudents DESC;

CourseName	NumberOfStudents
Material Science	6
Numerical Methods	5
AutoCAD 1	4
DBMS	3
Web Technology	3
AutoCAD	3

3.

SELECT s.FirstName, s.LastName FROM Students s JOIN Enrollments e ON s.StudentID = e.StudentID GROUP BY s.StudentID, s.FirstName, s.LastName HAVING COUNT(e.CourseID) >= 2;



4.

SELECT s.StudentID, s.FirstName, s.LastName
FROM Students s

JOIN Enrollments e ON s.StudentID = e.StudentID

WHERE e.Grade = (

SELECT MAX(Grade)

```
FROM Enrollments
```

);

```
+-----+
| StudentID | FirstName | LastName |
+-----+
| 5 | Pankaj | Kumar |
+-----+
1 row in set (0.00 sec)
```

5.

SELECT c.CourseID, c.CourseName, c.Instructor

FROM Courses c

LEFT JOIN Enrollments e ON c.CourseID = e.CourseID

WHERE e.EnrollmentID IS NULL;

```
Empty set (0.00 sec)

mysql>
```

6.

SELECT s.StudentID, s.FirstName, s.LastName

FROM Students s

JOIN (

SELECT StudentID, COUNT(DISTINCT CourseID) AS EnrolledCourses

FROM Enrollments

GROUP BY StudentID

) AS StudentCourses ON s.StudentID = StudentCourses.StudentID

WHERE EnrolledCourses = (SELECT COUNT(*) FROM Courses);

```
+-----+
| StudentID | FirstName | LastName |
+-----+
| 6 | Sundar | Kumar |
+-----+
1 row in set (0.01 sec)
```

```
7.
```

```
SELECT c.CourseName,
```

AVG(CASE e.Grade

WHEN 'A' THEN 9

WHEN 'B' THEN 8

WHEN 'C' THEN 7

WHEN 'D' THEN 6

WHEN 'E' THEN 5

WHEN 'F' THEN 4

WHEN 'G' THEN 3

WHEN 'H' THEN 2

WHEN 'I' THEN 1

WHEN 'J' THEN O

END) AS AverageGrade

FROM Courses c

JOIN Enrollments e ON c.CourseID = e.CourseID

GROUP BY c.CourseName

ORDER BY AverageGrade DESC;

```
8.

SELECT s.StudentID, s.FirstName, s.LastName, COUNT(e.StudentID) AS EnrollmentsCount

FROM Students s

JOIN Enrollments e ON s.StudentID = e.StudentID

GROUP BY s.StudentID, s.FirstName, s.LastName

HAVING COUNT(e.StudentID) = (

SELECT MAX(EnrollmentCount)

FROM (

SELECT COUNT(StudentID) AS EnrollmentCount

FROM Enrollments

GROUP BY StudentID

) AS EnrollmentsPerStudent
);
```

+	·	·	-
StudentID	FirstName	LastName	EnrollmentsCount
6	Sundar	Kumar	6
1 row in set	(0.00 sec)		•