

“Heaven's Light is Our Guide”

Rajshahi University of Engineering & Technology

Department of Electrical and Computer Engineering



Course code: ECE 2216

Course title: Database Management System Sessional

Report number: 02

Date of submission: 01 October 2024

Submitted to Oishi Jyoti Assistant Professor Department of ECE, RUET	Submitted by Md. Abdullah Ibna Shad Roll: 2110042 Department of ECE, RUET
--	---

Experiment No: 03**Experiment Name: Database query using SQL.**

Task-1: Find students who are older than 20 and have a GPA above the average GPA of all students.

Code:

```
SELECT student_id, student_name, age, GPA, departmentFROM
student_info
WHERE age > 20
AND GPA > (SELECT AVG(GPA) FROM student_info);
```

Output:

student_id	student_name	age	GPA	department
1	Eleven	21	3.8	Engineering
2	Dustin	22	3.9	Science
4	Mike	23	3.7	Engineering
6	Eddie	22	4	Arts
9	Steve	21	3.8	Science
12	Nancy	23	3.9	business

Task-2: Find the top 5 students with the highest fess paid, ordered by GPA (in descending order) as a tiebreaker.

Code:

```
SELECT student_id, student_name, fess_paid, GPAFROM
student_info
ORDER BY fess_paid DESC, GPA DESC
LIMIT 5;
```

Output:

student_id	student_name	fess_paid	1	GPA	2
5	Max	12000		3.5	
10	Robin	11000		3.6	
9	Steve	10500		3.8	
1	Eleven	10000		3.8	
12	Nancy	9500		3.9	

Task-3: List students who belong to the "Engineering" department, have a GPA greater than 3.5, and are enrolled after 2020.

Code:

```
SELECT student_id, student_name, department, GPA, year_of_admission
```

```
FROM student_info
WHERE department LIKE '%Engineering%'AND
GPA > 3.5
AND year_of_admission > 2020;
```

Output:

student_id	student_name	department	GPA	year_of_admission
1	Eleven	Engineering	3.8	2021
4	Mike	Engineering	3.7	2021
10	Robin	Engineering	3.6	2022

Task-4: Find students who are not active (i.e., enrollment_status = 'inactive') and have not paid any fees (fess_paid = 0).

Code:

```
SELECT student_id, student_name, enrollment_status, fess_paidFROM
student_info
WHERE enrollment_status = 'inactive'AND
fess_paid = 0;
```

Output:

student_id	student_name	enrollment_status	fess_paid
------------	--------------	-------------------	-----------

Task-5: Calculate the total fees paid and average GPA for each department, but only for departments with more than 10 students.

Code:

```
SELECT department,
      SUM(fess_paid) AS total_fess_paid,
      AVG(GPA) AS average_GPA,
      COUNT(student_id) AS student_count
FROM student_info GROUP
BY department
HAVING COUNT(student_id) > 10;
```

Output:

department	total_fess_paid	average_GPA	student_count
------------	-----------------	-------------	---------------

