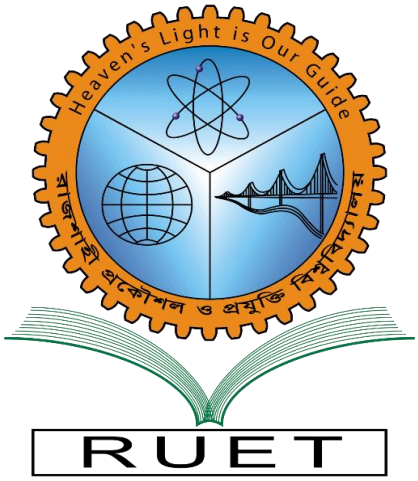
*"Heaven's Light is Our Guide"*

Rajshahi University of Engineering & Technology, Rajshahi




Department of Electrical And Computer Engineering

Course Code : ECE 2216

Course Title : Database Management System Sessional

Experiment No. : 02

Experiment Date : 24-09-2024

Submission Date : 1-10-2024

**Submitted To-**
Oishi Jyoti
Assistant Professor,
ECE, RUET

**Submitted By-**
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Roll:2110026

**Experiment No.:** 02

**Experiment Name:**
Write appropriate SQL query for the given task and show output

**Students Table**

| student_id | student_name | age | GPA | department | year_of_admission | fees_paid | credits_earned | enrollment_status |
|---|---|---|---|---|---|---|---|---|
| 1 | Eleven | 21 | 3.8 | Engineering | 2021 | 10000 | 120 | active |
| 2 | Dustin | 22 | 3.9 | Science | 2020 | 9000 | 110 | active |
| 3 | Will | 19 | 3.4 | Business | 2022 | 8500 | 95 | active |
| 4 | Mike | 23 | 3.7 | Science | 2021 | 9500 | 115 | inactive |
| 5 | Max | 20 | 3.5 | Engineering | 2020 | 12000 | 130 | active |
| 6 | Eddie | 22 | 4.0 | Arts | 2019 | 8000 | 140 | active |
| 7 | Billy | 24 | 2.9 | Engineering | 2022 | 5000 | 60 | active |
| 8 | Alexei | 25 | 3.2 | Business | 2018 | 7500 | 100 | inactive |
| 9 | Steve | 21 | 3.8 | Science | 2021 | 10500 | 120 | active |
| 10 | Robin | 20 | 3.6 | Engineering | 2022 | 11000 | 125 | active |
| 11 | Lucas | 18 | 2.7 | Engineering | 2023 | 4000 | 50 | active |
| 12 | Nancy | 23 | 3.9 | Business | 2019 | 9500 | 135 | active |

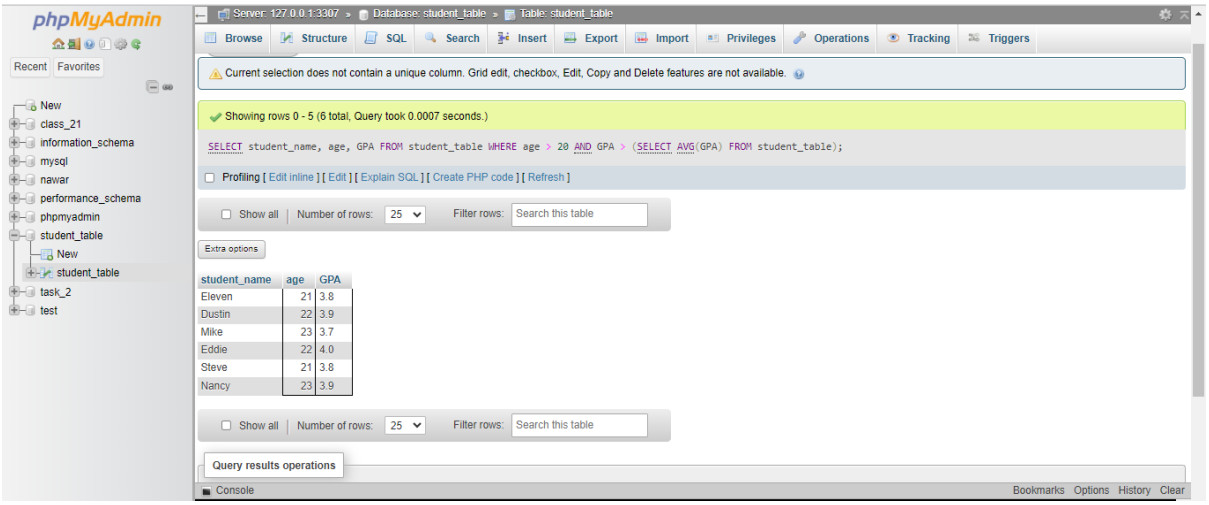
**Task:**

1. Find students who are older than 20 and have a GPA above the average GPA of all students
2. Find the top 5 students with the highest fees paid, ordered by GPA (in descending order) as a tiebreaker
3. List students who belong to the "Engineering" department, have a GPA greater than 3.5, and are enrolled after 2020
4. Find students who are not active (i.e., enrollment_status = 'inactive') and have not paid any fees (fees_paid = 0)
5. Calculate the total fees paid and average GPA for each department, but only for departments with more than 10 students

**Objective**: Learning different operations using database .

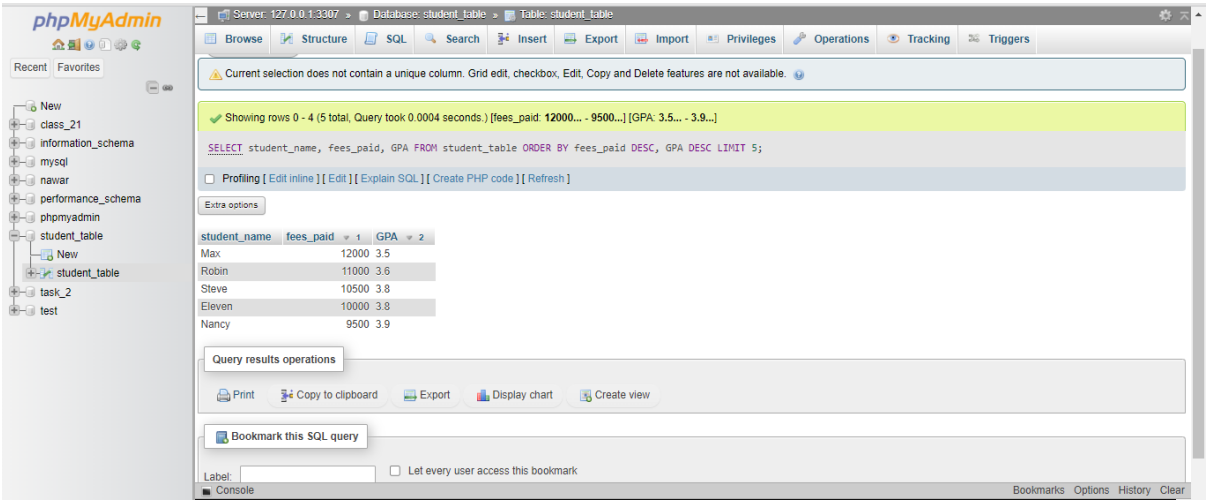
**1.Query:** Finding students who are older than 20 and have a GPA above the average GPA of all students

**Output:**



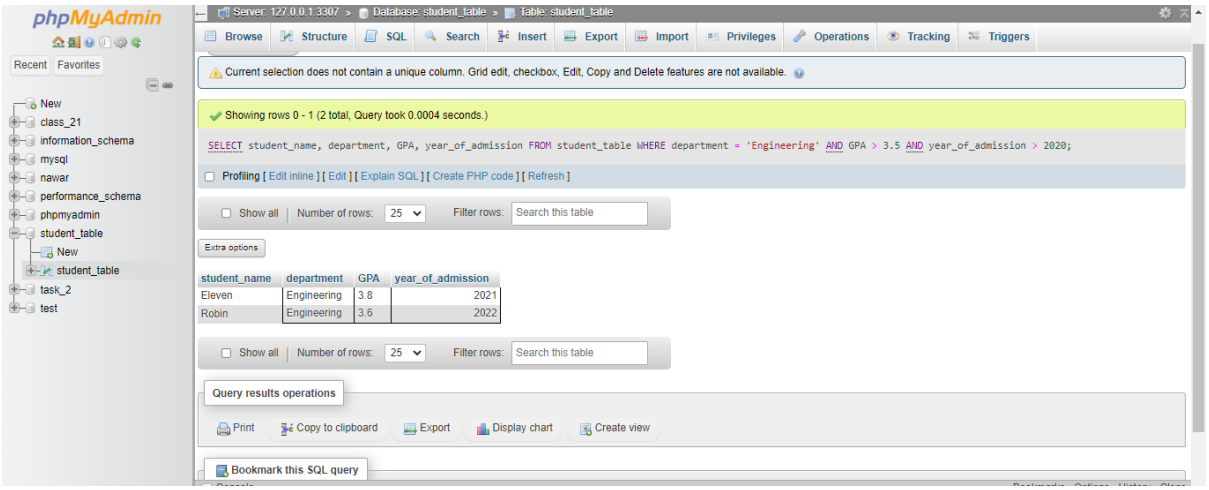

**2.Query:** Finding the top 5 students with the highest fees paid, ordered by GPA (in descending order) as a tiebreaker

**Output:**



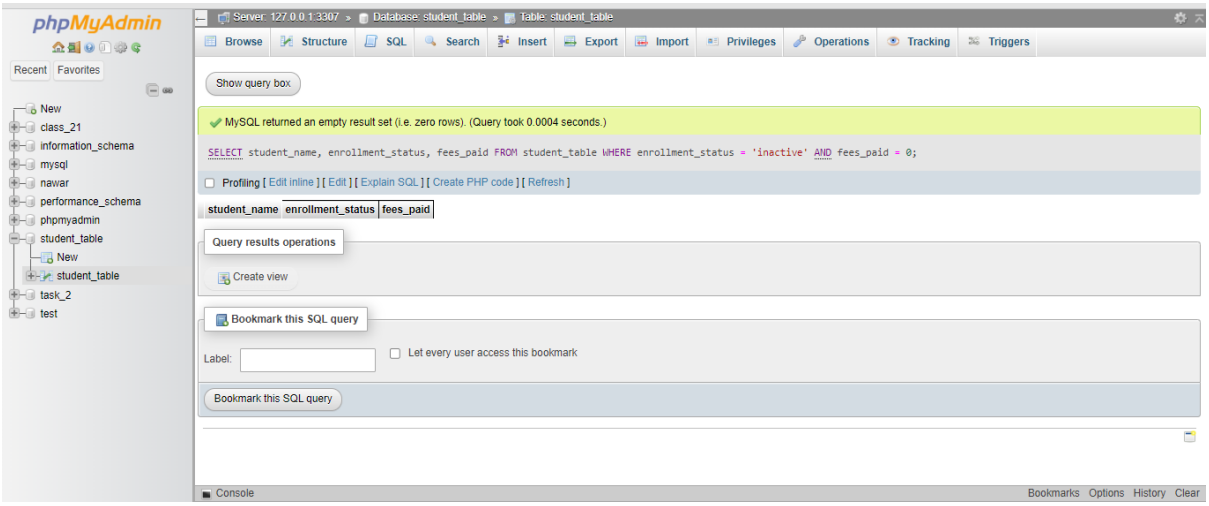
**3.Query:** Listing students who belong to the "Engineering" department, have a GPA greater than 3.5, and are enrolled after 2020

**Output:**




**4.Query:** Finding students who are not active (i.e., enrollment_status = 'inactive') and have not paid any fees (fees_paid = 0)

**Output:**



**5.Query:** Calculating the total fees paid and average GPA for each department, but only for departments with more than 10 students.

**Output:**