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Lab Report - 01

1.1 Counting the Number of Students with a GPA of 3.5 or Higher

. Introduction

This query aims to find that the number of students achieving a GPA of 3.5 or higher.

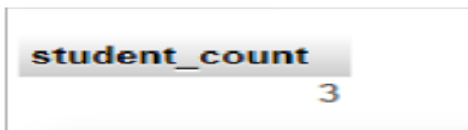
. Objectives

- .Counting how many students get a GPA of 3.5 or above.

. Query

```
SELECT COUNT(*) AS student count
FROM students
WHERE GPA 3.5;
```

. Output



student_count
3

1.2 Calculating the Average GPA of All Students

. Introduction

This query aims to calculates the average GPA of all students in a class. The process involves taking input for individual GPAs, summing them up, and dividing by the total number of students.

. Objectives

- To compute the average GPA of a group of students.

.Query

```
SELECT AVG(GPA) AS average gpa
FROM students;
```

.Output

average_gpa
3.500000

1.3 Retrieving Students from the Computer Science Department

. Introduction

This query aims to find that retrieves and displays information about students who belong to the Computer Science department. This query helps in efficiently filtering and managing department-specific data.

. Objectives

- To filter and retrieve student data based on the department field.
- To provide a programmatic solution for department-specific data management.

.Query

```
SELECT student id, student name, department, GPA
```

```
FROM students
```

```
WHERE department = 'Computer Science';
```

.Output

student_id	student_name	department	GPA
1	Alice Johnson	Computer Science	3.80
4	David Lee	Computer Science	3.90

1.4 Finding Students Whose Names End with 'th'

. Introduction

In data management, pattern matching in names is a common task for sorting or filtering information, This query searches for and retrieves the names of students ending with the suffix 'th'. Such a feature is useful for creating specific lists or performing targeted analysis.

. Objectives

- To design a program that filters student names ending with the suffix 'th'.
- To enhance data filtering capabilities in a student management system.

.Query

```
SELECT student id, student name  
  
FROM students  
  
WHERE student name LIKE '%th';
```

.Output

student_id	student_name
2	Bob Smith