Enrollement number: 21162101012

Branch: CBA, Batch - 31

DBMS Practical 6

Institute of computer technology

Ganpat university B.tech. CSE (CBA/BDA/CS)

(2CSE301) DATABASE MANAGEMENT SYSTEM

PRACTICAL 6

The SQL **GROUP BY** clause is used in collaboration with the SELECT statement to arrange identical data into groups. This GROUP BY clause follows the WHERE clause in a SELECT statement and precedes the ORDER BY clause.

Syntax

The basic syntax of a GROUP BY clause is shown in the following code block. The GROUP BY clause must follow the conditions in the WHERE clause and must precede the ORDER BY clause if one is used.

SELECT column1, column2
FROM table_name
WHERE [conditions]
GROUP BY column1, column2
ORDER BY column1, column2

SELECT column1, column2
FROM table_name
GROUP BY column1, column2
Having [CONDITION]

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Consider the CUSTOMERS table is having the following records –

+---+

| ID | NAME | AGE | ADDRESS | SALARY |

+----+

- | 1 | Ramesh | 32 | Ahmedabad | 2000.00 |
- | 2 | Khilan | 25 | Delhi | 1500.00 |
- | 3 | kaushik | 23 | Kota | 2000.00 |
- | 4 | Chaitali | 25 | Mumbai | 6500.00 |
- | 5 | Hardik | 27 | Bhopal | 8500.00 |
- | 6 | Komal | 22 | MP | 4500.00 |
- | 7 | Muffy | 24 | Indore | 10000.00 |

+----+

If you want to know the total amount of the salary on each customer, then the GROUP BY guery would be as follows.

SQL> SELECT NAME, SUM(SALARY) FROM CUSTOMERS GROUP BY NAME;

This would produce the following result –

+----+

| NAME | SUM(SALARY) |

+----+

| Chaitali | 6500.00 |

| Hardik | 8500.00 |

| kaushik | 2000.00 |

| Khilan | 1500.00 |

| Komal | 4500.00 |

| Muffy | 10000.00 |

| Ramesh | 2000.00 |

+----+

Now, let us look at a table where the CUSTOMERS table has the following records with duplicate names –

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Now again, if you want to know the total amount of salary on each customer, then the GROUP BY query would be as follows –

```
SQL> SELECT NAME, SUM(SALARY) FROM CUSTOMERS
GROUP BY NAME;
```

This would produce the following result –
+-----+
| NAME | SUM(SALARY) |
+-----+
Hardik	8500.00
kaushik	8500.00
Komal	4500.00
Muffy	10000.00
Ramesh	3500.00
+-----+

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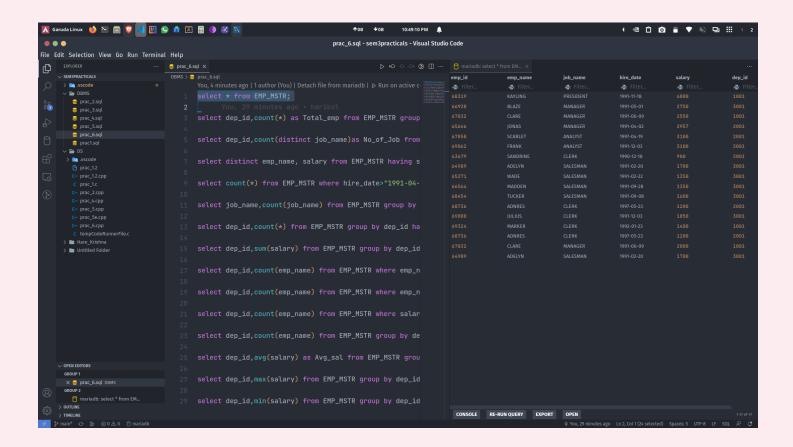
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The HAVING clause was added to SQL because the WHERE keyword cannot be used with aggregate functions.

Queries and Outputs:

select * from EMP_MSTR;



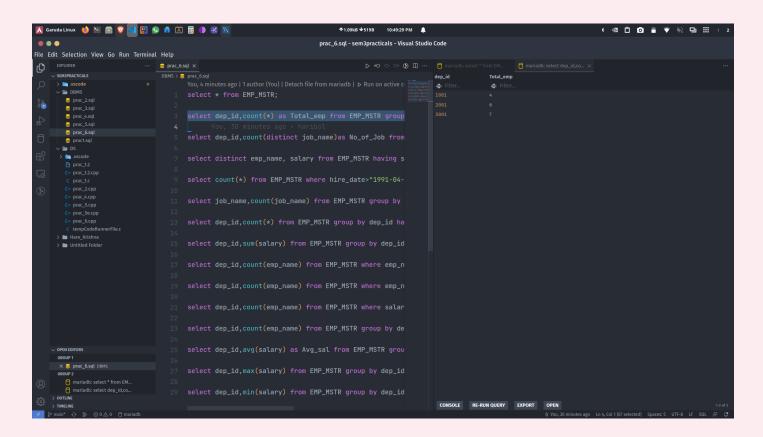
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1) How many employees are there in each department?

select dep_id,count(*) as Total_emp from EMP_MSTR group by
dep_id;



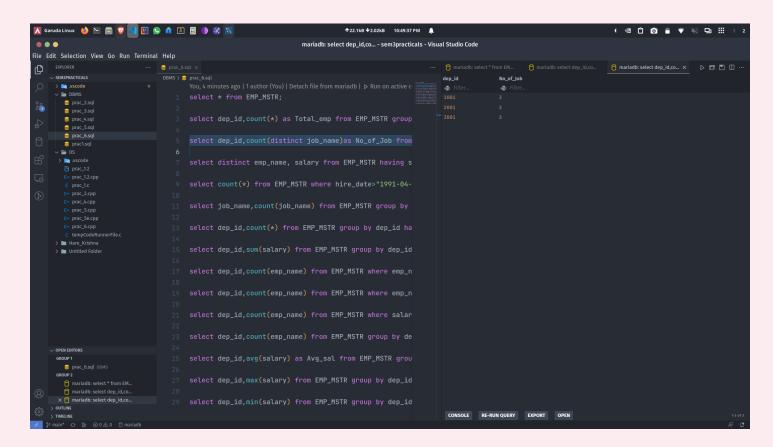
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2) Find out total number of job role assigned in each department.

select dep_id,count(distinct job_name)as No_of_Job from EMP_MSTR
group by dep_id;



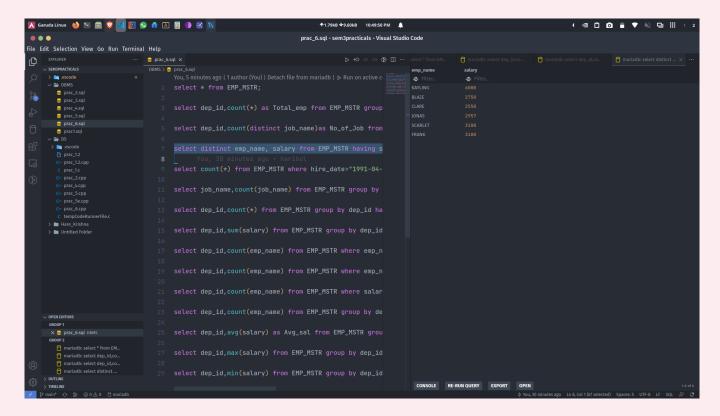
3) Find out employee's names and salary whose having salary more than 2000. (Duplication in employee name should be removed)

select distinct emp_name, salary from EMP_MSTR having
salary>2000;

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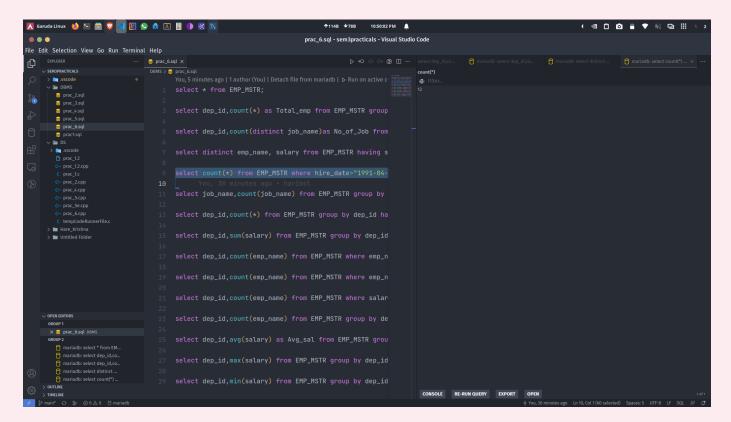
4) Find out number of employees hired after 03rd April 1991.

select count(*) from EMP_MSTR where hire_date>"1991-04-03";

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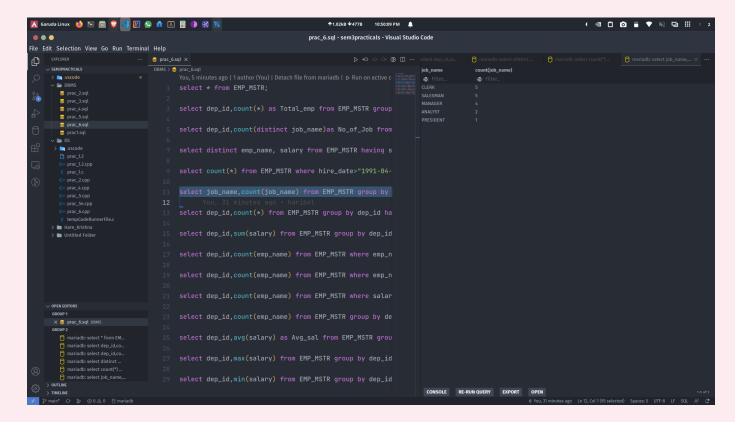
5) lists the number of employees in each job role, sorted high to low.

select job_name,count(job_name) from EMP_MSTR group by job_name order
by count(job_name) desc;

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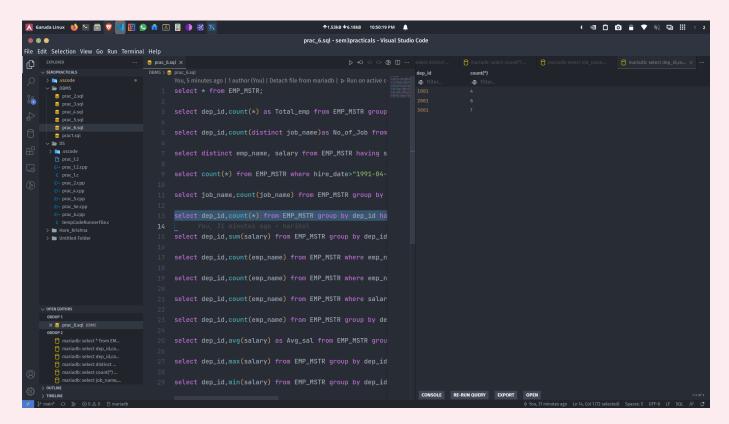
6) lists the number of employees in each department. Only include department with more than 3 employees in each.

select dep_id,count(*) from EMP_MSTR group by dep_id having
count(*)>3;

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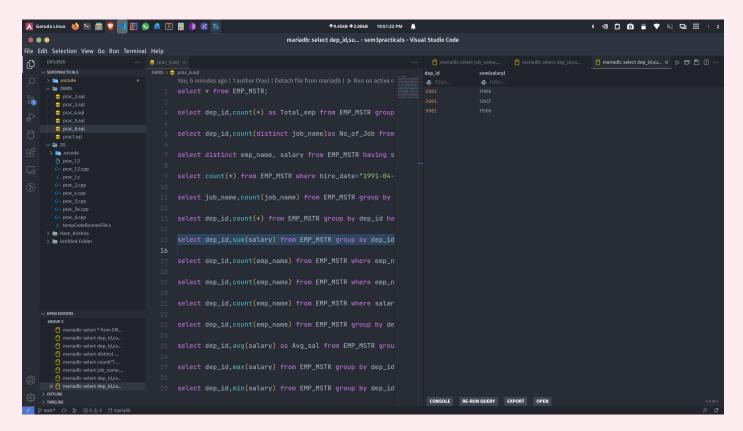
7) Display the total amount of the salary on each department.

select dep_id,sum(salary) from EMP_MSTR group by dep_id;

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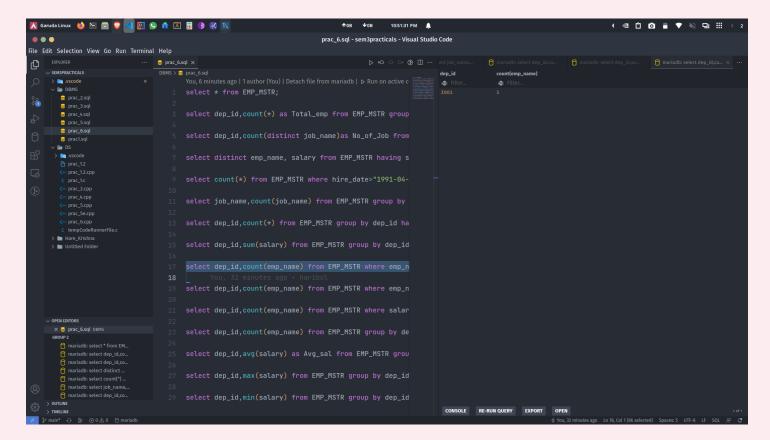
8) Count total number of employees assigned in each department whose name end with "n".

select dep_id,count(emp_name) from EMP_MSTR where emp_name like
'%n' group by dep_id;

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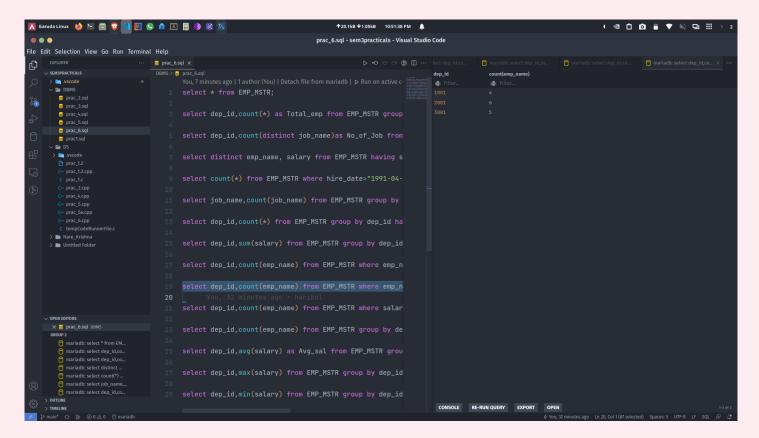
9) Find out total number of employees having "a" as a character in their name in each department.

select dep_id,count(emp_name) from EMP_MSTR where emp_name like
'%a%' group by dep_id;

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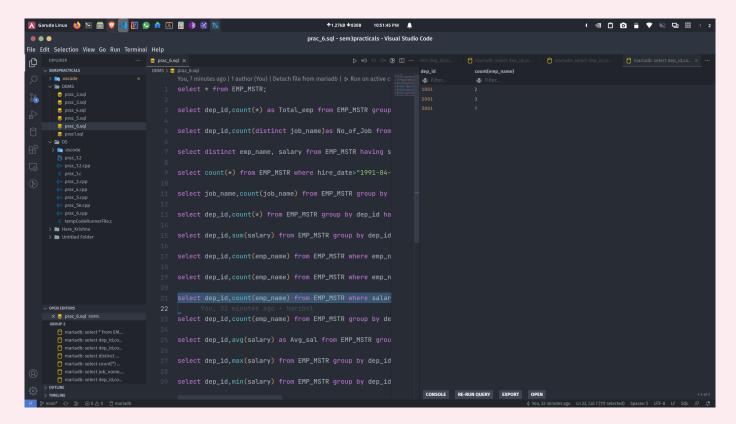
10) Find out total number of employees having salary more than average salary of all the employee in each department.

select dep_id,count(emp_name) from EMP_MSTR where salary >
(select avg(salary) from EMP_MSTR) group by dep_id;

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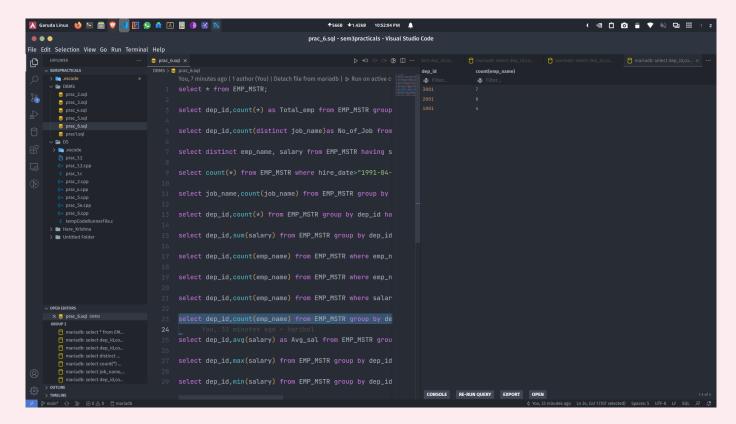
11)Display total number of employees in each department whose department having more than 2 employees also display department id in descending order.

select dep_id,count(emp_name) from EMP_MSTR group by dep_id
having count(emp_name)>2 order by dep_id desc;

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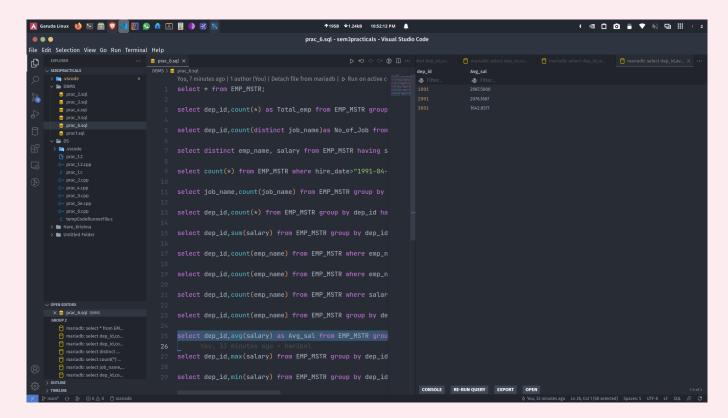
12) Display department wise average salary of employee.

select dep_id,avg(salary) as Avg_sal from EMP_MSTR group by
dep_id;

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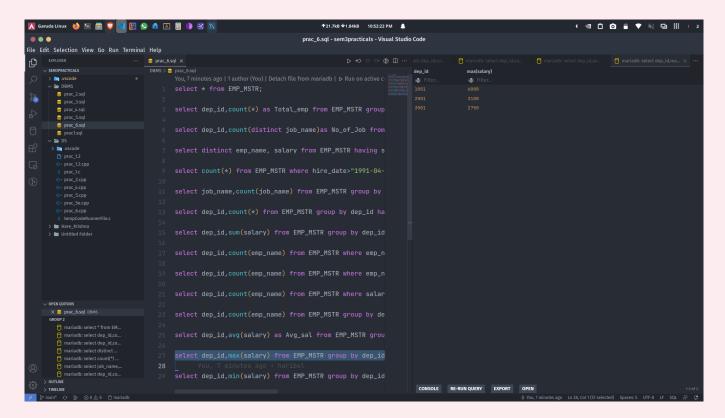
13)Display name of the employee along with salary whose salary is maximum in respective department.

select dep_id,max(salary) from EMP_MSTR group by dep_id;

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14)Display name of the employee along with salary whose salary is minimum in respective department.

select dep_id,min(salary) from EMP_MSTR group by dep_id;

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