Institute of Computer Technology

B. Tech. Computer Science and Engineering

Semester: III

Sub: Database Management System

Course Code: 2CSE301

Practical Number:5

Objective:

Perform Queries using Group by and Having clause.

Queries:

1) **How many employees are there in each department?**

Code :

```
Select department_id,COUNT(name) from employees GROUP BY department_id;
```

Output :

department_id	COUNT(name)
101	5
102	5
103	2
104	2
105	3

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

Code :

```
Select department_id,COUNT(job_role) from employees GROUP BY
department_id;
```

Output :

department_id	COUNT(job_role)
101	5
102	5
103	2
104	2
105	3

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

Code :

Select DISTINCT name,salary from employees where salary>2000;

Output :

name	salary
John	5500.00
Anna	3500.00
Michael	4200.00
Sophia	4800.00
James	6000.00
Chris	5100.00
Jessica	2900.00
David	3100.00
Robert	3500.00
Daniel	3200.00
Lucas	6200.00
Ethan	3300.00
Liam	4300.00
Mason	5400.00
Olivia	4500.00
Emma	3700.00

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

Code :

Select name from employees where hire_date>'1991-04-03';

Output :

name
Anna
Sophia
James
Karen
Jessica
Robert
Daniel
Ethan
Mason
Olivia
Emma

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

Code :

Select job_role,COUNT(employee_id)as employee_count from employees GROUP BY job_role ORDER BY employee_count DESC;

Output :

job_role	employee_count
Developer	5
Manager	4
Analyst	3
HR	3
Designer	2

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

Code :

```
Select department_id,COUNT(name) as name_count from employees GROUP BY department_id HAVING name_count>3;
```

Output :

department_id	name_count
101	5
102	5

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

Code :

```
Select department_id,SUM(salary) from employees GROUP BY department_id;
```

Output :

department_id	SUM(salary)
101	20100.00
102	22900.00
103	12200.00
104	6000.00
105	10000.00

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

Code :

```
Select department_id,COUNT(employee_id)  from employees where name like '%n' GROUP BY department_id;
```

Output :

department_id	COUNT(employee_id)
101	3
105	1

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

Code :

Select department_id,COUNT(employee_id) from employees where name like '%a%' GROUP BY department_id;

Output :

department_id	COUNT(employee_id)
101	4
102	4
103	2
104	2
105	2

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

Code :

Select department_id,COUNT(*) AS num_employees_above_avg from employees e WHERE salary>(SELECT AVG(salary) FROM employees Where department_id = e.department_id) GROUP BY department_id;

Output :

department_id	num_employees_above_avg
101	2
102	2
104	1
105	1
103	1

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

Code :

Select department_id,COUNT(employee_id) as employee_count from employees GROUP BY department_id HAVING employee_count>2 ORDER BY department_id DESC;

Output :

department_id	employee_count
105	3
102	5
101	5

12) Display department wise average salary of employee.

Code :

```
Select department_id,AVG(salary) as salary_avg from employees GROUP BY department_id;
```

Output :

department_id	salary_avg
101	4020.000000
102	4580.000000
103	6100.000000
104	3000.000000
105	3333.333333

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

Code :

```
Select department_id,MAX(salary) as max_sal from employees GROUP BY department_id HAVING max_sal ;
```

Output :

department_id	max_sal
101	5500.00
102	5100.00
103	6200.00
104	3100.00
105	3500.00

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

Code :

```
Select department_id,MIN(salary) as min_sal from employees GROUP BY department_id HAVING min_sal ;
```

Output :

department_id	min_sal
101	2000.00
102	4200.00
103	6000.00
104	2900.00
105	3200.00