PES UNIVERSITY EC CAMPUS
DBMS LAB WEEK 6

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SECTION: E

PROBLEM STATEMENT : SQL – Aggregate functions.

Q1: Show the resulting salaries if every employee working on the 'ProductX' project is given a 10% raise.

```
companydb=*# SELECT FNAME AS FIRST_NAME,LNAME AS LAST_NAME,SALARY AS OLD_SALARY,1.1*SALARY AS NEW_SALARY FROM EMPLOYEE E,WORKS_ON W,PROJECT P W
HERE E.SSN=W.ESSN AND W.PNO=P.PNUMBER AND P.PNAME='PRODUCTX';
 first_name | last_name | old_salary | new_salary
------------+-----------+------------+------------
 JOHN       | SMITH     |      30000 |    33000.0
 JOYCE      | ENGLISH   |      25000 |    27500.0
(2 rows)


companydb=*#
```

Q2.Find the sum of the salaries of all employees of the 'Research' department, as well as the maximum salary, the minimum salary, and the average salary in this department.

```
companydb=*# SELECT SUM(SALARY), MAX(SALARY), MIN(SALARY), AVG(SALARY) FROM EMPLOYEE;
  sum   |  max  |  min  |        avg
--------+-------+-------+--------------------
 281000 | 55000 | 25000 | 35125.000000000000
(1 row)

companydb=*#
```

Q3.Count the number of distinct salary values in the database.

```
[companydb=*# SELECT COUNT(DISTINCT SALARY) AS "COUNT_SALARY" FROM EMPLOYEE;
 COUNT_SALARY
--------------
            6
(1 row)
```

Q4.Retrieve the names of all employees who have two or more dependents.

```
[companydb=*# SELECT LNAME,FNAME FROM EMPLOYEE WHERE(SELECT COUNT(*) FROM DEPENDENT WHERE SSN=ESSN)>=2;
 lname  |  fname
--------+----------
 WONG   | FRANKLIN
 SMITH  | JOHN
(2 rows)

companydb=*#
```

Q5.For each department, retrieve the department number, the number of employees in the department, and their average salary.

```
[companydb=*# SELECT DNO,COUNT(*),AVG(SALARY) FROM EMPLOYEE GROUP BY DNO;
 dno | count |         avg
-----+-------+--------------------
   5 |     4 | 33250.000000000000
   4 |     3 | 31000.000000000000
   1 |     1 | 55000.000000000000
(3 rows)
```

Q6.Retrieve the names of employees who make at least $10,000 more than the employee who is paid the least in the company.

```
companydb=*# SELECT LNAME FROM EMPLOYEE WHERE SALARY >= 10000+(SELECT MIN(SALARY) FROM EMPLOYEE);
  lname
---------
 BORG
 WONG
 WALLACE
 NARAYAN
(4 rows)
```

Q7.Retrieve the names of all employees who work in the department that has the employee with the highest salary among all employees.

```
[companydb=*# SELECT FNAME,LNAME FROM EMPLOYEE WHERE DNO =( SELECT DNO FROM EMPLOYEE WHERE SALARY =(SELECT MAX(SALARY) FROM EMPLOYEE) );
 fname | lname
-------+-------
 JAMES | BORG
(1 row)

companydb=*#
```

Q8.Count the total number of employees whose salaries exceed $40,000 in each department
```

```
companydb=*# SELECT DNAME,COUNT(*) FROM DEPARTMENT,EMPLOYEE WHERE DNUMBER=DNO AND SALARY>40000 GROUP BY DNAME;
     dname       | count
-----------------+-------
 ADMINISTRATION  |     1
 HEADQUARTERS    |     1
(2 rows)
```

------------------------- THANK YOU--------------------------