WEEK 6 SQL – Aggregate functions

Name – B.Pravena Class – 5B SRN – PES2UG19CS076

Problem Statements:

Write the SQL query using aggregate functions for the following.

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

```
company=# SELECT fname,minit,lname,1.1*salary
company-# FROM employee,works_on,project
company-# WHERE ssn=essn AND pno=pnumber AND pname='ProductX';
 fname | minit |  lname  | ?column?
-------+-------+---------+-----------
 John  | B     | Smith   | 33000.000
 Joyce | A     | English | 27500.000
(2 rows)
```

2. 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.

```
company=# SELECT sum(salary), max(salary), min(salary), avg(salary)
company-# FROM employee, department
company-# WHERE dno=dnumber AND dname='Research';
    sum    |   max    |   min    |        avg
-----------+----------+----------+--------------------
 133000.00 | 40000.00 | 25000.00 | 33250.000000000000
(1 row)
```

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

```
company=# SELECT count (distinct salary)
company-# FROM employee;
 count
-------
     6
(1 row)
```

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

```
company=# SELECT fname,minit,lname
company-# FROM employee
company-# WHERE ( SELECT count(*) FROM dependent where ssn=essn)>=2;
  fname   | minit | lname
----------+-------+-------
 John     | B     | Smith
 Franklin | T     | Wong
(2 rows)
```

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

```
company=# SELECT dno, count(*), avg(salary)
company-# FROM employee
company-# GROUP BY dno;
 dno | count |        avg
-----+-------+--------------------
   5 |     4 | 33250.000000000000
   4 |     3 | 31000.000000000000
   1 |     1 | 55000.000000000000
(3 rows)
```

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

```
company=# SELECT fname,minit,lname
company-# FROM employee
company-# WHERE salary>=10000 + (SELECT min(salary) FROM employee);
  fname   | minit |  lname
----------+-------+---------
 James    | E     | Borg
 Franklin | T     | Wong
 Jennifer | S     | Wallace
 Ramesh   | K     | Narayan
(4 rows)
```

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

```
company=# SELECT fname,minit,lname
company-# FROM employee
company-# WHERE dno=(SELECT dno from employee WHERE salary=(SELECT max(salary) FROM employee));
 fname | minit | lname
-------+-------+-------
 James | E     | Borg
(1 row)
```

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

```
company=# SELECT count(*)
company-# FROM employee
company-# WHERE salary>40000;
 count
-------
     2
(1 row)


company=# SELECT count(*)
company-# FROM employee
company-# WHERE salary>40000
company-# GROUP BY dno;
 count
-------
     1
     1
(2 rows)
```