

DBMS LAB WEEK6

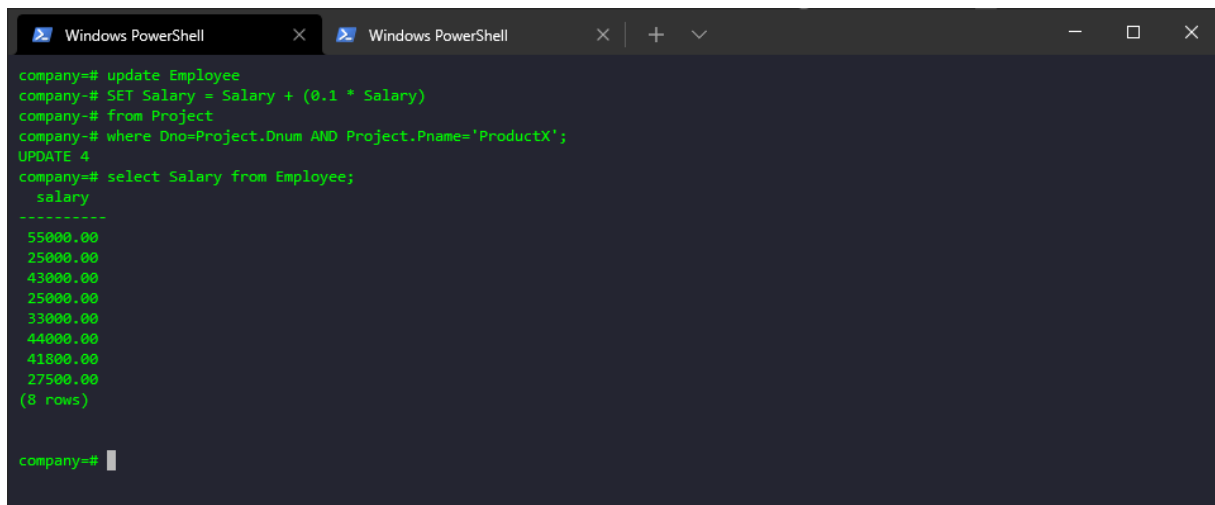
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SECTION B**

SQL – Aggregate functions.

Problem Statement:

Write the SQL query using aggregate functions for the following.

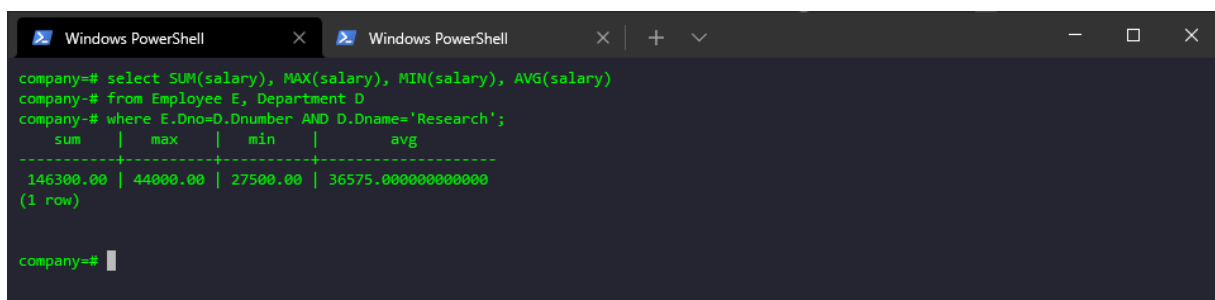
1. Show the resulting salaries if every employee working on the 'ProductX' project is given a 10% raise.



```
company=# update Employee
company=# SET Salary = Salary + (0.1 * Salary)
company=# from Project
company=# where Dno=Project.Dnum AND Project.Pname='ProductX';
UPDATE 4
company=# select Salary from Employee;
 salary
-----
 55000.00
 25000.00
 43000.00
 25000.00
 33000.00
 44000.00
 41800.00
 27500.00
(8 rows)

company=#
```

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 E, Department D
company=# where E.Dno=D.Dnumber AND D.Dname='Research';
 sum | max | min | avg
-----+-----+-----+-----
146300.00 | 44000.00 | 27500.00 | 36575.000000000000
(1 row)

company=#
```

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

```
Windows PowerShell
company=# select COUNT (DISTINCT Salary)
company=# from Employee;
count
-----
7
(1 row)

company=#
```

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

```
Windows PowerShell
company=# select Fname, Lname from Employee E
company=# where(select COUNT(*) from Dependent D
company=#       where E.Ssn=D.Essn) >=2;
fname | lname
-----+-----
John   | Smith
Franklin | Wong
(2 rows)

company=#
```

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

```
Windows PowerShell
company=# select Dno, COUNT(*), AVG(Salary)
company=# from Employee
company=# GROUP BY Dno;
dno | count | avg
-----+-----+-----
5 | 4 | 36575.000000000000
4 | 3 | 31000.000000000000
1 | 1 | 55000.000000000000
(3 rows)

company=#
```

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

```
Windows PowerShell
company=# select Fname, Lname from Employee
company=# where Salary - (select MIN(Salary) from Employee) >= 10000;
  fname | lname
-----+-----
James   | Borg
Jennifer| Wallace
Franklin| Wong
Ramesh  | Narayan
(4 rows)

company=#
```

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

```
Windows PowerShell
company=# select Fname, Lname
company=# from Employee
company=# where Dno IN (select Dno from Employee where Salary = (select MAX(Salary) from Employee));
  fname | lname
-----+-----
James   | Borg
(1 row)

company=#
```

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

```
Windows PowerShell
company=# select D.Dnumber, COUNT(*)
company=# from Employee E, Department D
company=# where D.Dnumber=E.Dno AND Salary>40000
company=# GROUP BY D.Dnumber;
 dnumber | count
-----+-----
4        | 1
1        | 1
5        | 2
(3 rows)

company=#
```