# DBMS Laboratory

## UE19CS304

## 5th Semester, Academic Year 2021-22

Week #: 6 - Aggregate Functions

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| Name :<br>SUMUKH RAJU BHAT | SRN :<br>PES1UG19CS519 | Section :<br>H |
|---|---|---|

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

```
company=# select fname, lname,
salary, 1.1*salary as newSalary
from employee e, works_on w, project p
where e.ssn = w.essn and w.pno = p.pnumber
and p.pname='ProductX';
 fname |  lname   |  salary  | newsalary
-------+---------+----------+-----------
 John  | Smith   | 30000.00 | 33000.000
 Joyce | English | 25000.00 | 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) as sumSalary,AVG(salary) as avgSalary,MIN(salary) as minSalary,MAX(salary) as maxSalary from employee e, department d where e.dno = d.dnumber and d.dname = 'Research';
 sumsalary |     avgsalary      | minsalary | maxsalary
-----------+--------------------+-----------+-----------
 133000.00 | 33250.000000000000 |  25000.00 |  40000.00
(1 row)
```

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

```
company=# select count(DISTINCT salary) from employee;
 count
-------
     6
(1 row)
```

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

```
company=# select lname, fname from employee where (select count(*) from dependent where ssn = essn)>=2
;
 lname |  fname
-------+---------
 Smith | John
 Wong  | Franklin
(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) from employee 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, lname from employee where salary >= (10000 + (select MIN(salary) from employee));
  fname   |  lname
----------+---------
 James    | Borg
 Franklin | Wong
 Jennifer | Wallace
 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.

```
company=# select fname, lname from employee where (dno = (select dno from employee where salary = (select max(salary) from employee)));
 fname | lname
-------+-------
 James | Borg
(1 row)
```

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

```
company=# select dno, count(*) from employee where salary > 40000 group by dno;
 dno | count
-----+-------
   4 |     1
   1 |     1
(2 rows)

company=#
```