Experiment No: 5

Aim : Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN)

DESCRIPTION:

Aggregate functions: An aggregate function is a function that derives a single value from a set of values of a column. Aggregate functions must be used with SELECT or HAVING clauses.

Common aggregate functions include

Function	Description
AVG(column)	Returns the average value of a column
COUNT(column)	Returns the number of rows (without a NULL value) of a column
COUNT(*)	Returns the number of selected rows
COUNT(DISTINCT column)	Returns the number of distinct results
MAX(column)	Returns the highest value of a column
MIN(column)	Returns the lowest value of a column
SUM(column)	Returns the sum of a column

Quires on EMP Table:

1. **create table dept(deptno number(2) primary key,deptname varchar(10) not null,deptlocation varchar(10));**
2. **create table emp(empno number(3) primary key,ename varchar(30) not null,designation varchar(30) not null, salary number(7) not null, commission number(5),deptno number(2) not null references dept(deptno));**

Table Data:

Dept Table:

DEPTNO	DEPTNAME	DEPTLOCATION
1	ce	a-block
2	me	m-block
3	eee	m-block
4	ece	mrr-block
5	aiml	c-block

Employee Table:

EMPNO	EMPNAME	DESIGNATION	SALARY	COMM	DEPTNO
101	sravan	asstpro	25000	1000	1
102	srinath	asstpro	27000	0	1
103	saikumar	assocpro	40000	0	1
104	amrutha	asstpro	29000	0	1
201	satwik	asstpro	28000	0	2
202	sudheer	asstpro	22000	5000	2
203	raghava	asstpro	22500	0	2
204	rajasekhar	assocpro	42000	0	2
205	haritha	assocpro	43000	0	2

301	**prakash**	**asstpro**	**20000**	**0**	**3**
302	**pavansai**	**asstpro**	**28000**	**2000**	**3**
303	**pravveen**	**asstpro**	**29000**	**0**	**3**
304	**neeraj**	**assocpro**	**39000**	**0**	**3**
305	**meghana**	**asstpro**	**20000**	**0**	**3**
401	**charan**	**asstpro**	**29500**	**0**	**4**
402	**dinakar**	**asstpro**	**32000**	**0**	**4**
403	**sanavulla**	**asstpro**	**31000**	**0**	**4**
404	**chandramouli**	**assocpro**	**45000**	**0**	**4**
405	**dhanush**	**assocpro**	**52000**	**0**	**4**
406	**chaitanya**	**professor**	**95000**	**0**	**4**
407	**pavani**	**assocpro**	**57000**	**0**	**4**
408	**sahana**	**asstpro**	**23000**	**0**	**4**
501	**jagadeesh**	**asstpro**	**30000**	**1000**	**5**
502	**imran**	**asstpro**	**32000**	**2000**	**5**
503	**haricharan**	**assocpro**	**54000**	**3000**	**5**
504	**jayaram**	**assocpro**	**49000**	**2000**	**5**
505	**vasundhara**	**assopro**	**39500**	**1000**	**5**
506	**sivapriya**	**asstpro**	**24700**	**3000**	**5**
507	**bhratkumar**	**assocpro**	**45600**	**2000**	**5**
508	**deppkika**	**assopro**	**56800**	**1000**	**5**
509	**srilatha**	**professor**	**98000**	**0**	**5**
510	**shaheena**	**assopro**	**57000**	**2000**	**5**

A) Display sum of all salaries in a EMP table.

SQL> select sum(sal) as summation from EMP;

B) Display the maximum salary from table EMP.

SQL> select max(sal) as maximum from EMP;

C) Display the minimum salary from table EMP.

SQL> select min(sal) as minimum from EMP;

D) Display the count of salary from table EMP who have salary greater than 20000.

SQL> select count(sal) from EMP where salary>50000;

E) Display the average of salary in a table EMP.

SQL> select avg(sal) from EMP;

F) Display the count of employees whose name start with ‘s’ and having the commission.
SQL> select count(*) from EMP where ename like ‘s%’ and commission >=0;

G) Display total salaries of employees individually for each department.
SQL> select deptno, sum(sal) as total from EMP group by deptno;

H) Display the average salary of employees in each department from the table EMP.

```
SQL>  SELECT deptno, avg(sal) from EMP GROUP BY deptno;
```

I) Calculate & display the average if their salary is over 20000 from the table EMP:

```
SQL> SELECT deptno, avg(sal) from EMP GROUP BY deptno
        HAVING avg(sal) > 30000;
```

J) Write a query that displays the difference between the highest and lowest salaries. Label the column DIFFERENCE

```
SQL > SELECT MAX(sal) - MIN(sal) DIFFERENCE FROM employees;
```

K) To display the minimum, maximum, sum, and average salary for each job type.

```
SQL >        SELECT designation, ROUND(MAX(sal),0) "Maximum",
                                 ROUND(MIN(sal),0) "Minimum",
                                 ROUND(SUM(sal),0) "Sum",
                                 ROUND(AVG(sal),0) "Average"
                                 FROM employee
                                 GROUP BY designation;
```