MySQL functions are of 2 types

1. single row functions
   1. number function
   2. string function
   3. date functions
2. aggregate functions

Theses functions works on group of rows

sum, count, min, max, avg

We can use following statements in aggregate function

group by , having

----to display sum and maximum salary and number of employees in each department

mysql> select deptno,sum(sal),max(sal),count(\*)

-> from emp

-> group by deptno;

+--------+-----------+----------+----------+

| deptno | sum(sal) | max(sal) | count(\*) |

+--------+-----------+----------+----------+

| 20 | 10875.00 | 3000.00 | 5 |

| 30 | 9400.00 | 2850.00 | 6 |

| 10 | 112451.00 | 34567.00 | 6 |

+--------+-----------+----------+----------+

3 rows in set (0.00 sec)

-------display sum of salary,maximum salary, number of employees and average salary jobwise

mysql> select job,sum(sal),max(sal),count(\*),avg(sal)

-> from emp

-> group by job;

+-----------+----------+----------+----------+--------------+

| job | sum(sal) | max(sal) | count(\*) | avg(sal) |

+-----------+----------+----------+----------+--------------+

| CLERK | 4150.00 | 1300.00 | 4 | 1037.500000 |

| SALESMAN | 5600.00 | 1600.00 | 4 | 1400.000000 |

| MANAGER | 42842.00 | 34567.00 | 4 | 10710.500000 |

| ANALYST | 6000.00 | 3000.00 | 2 | 3000.000000 |

| PRESIDENT | 5000.00 | 5000.00 | 1 | 5000.000000 |

| Designer | 69134.00 | 34567.00 | 2 | 34567.000000 |

+-----------+----------+----------+----------+--------------+

6 rows in set (0.00 sec)

-------display sum of salary. count number of emplyees for CLERK, SALESMAN, MANAGER

mysql>

select job,sum(sal),count(\*)

-> from emp

-> where job in ('CLERK','SALESMAN','MANAGER')

-> group by job;

+----------+----------+----------+

| job | sum(sal) | count(\*) |

+----------+----------+----------+

| CLERK | 4150.00 | 4 |

| SALESMAN | 5600.00 | 4 |

| MANAGER | 42842.00 | 4 |

+----------+----------+----------+

3 rows in set (0.00 sec)

------to display sum of salary, number of employees working as CLERK

mysql> select job,sum(sal),count(\*)

-> from emp

-> where job='CLERK';

+-------+----------+----------+

| job | sum(sal) | count(\*) |

+-------+----------+----------+

| CLERK | 4150.00 | 4 |

+-------+----------+----------+

1 row in set (0.00 sec)

-----display sum of sal,maximum sal,min sal,count and average sal

fro each department jobwise

select deptno,job,sum(sal),max(sal),min(sal),count(\*),avg(sal)

-> from emp

-> group by deptno,job

-> order by deptno;

+--------+-----------+----------+----------+----------+----------+--------------+

| deptno | job | sum(sal) | max(sal) | min(sal) | count(\*) | avg(sal) |

+--------+-----------+----------+----------+----------+----------+--------------+

| 10 | CLERK | 1300.00 | 1300.00 | 1300.00 | 1 | 1300.000000 |

| 10 | Designer | 69134.00 | 34567.00 | 34567.00 | 2 | 34567.000000 |

| 10 | MANAGER | 37017.00 | 34567.00 | 2450.00 | 2 | 18508.500000 |

| 10 | PRESIDENT | 5000.00 | 5000.00 | 5000.00 | 1 | 5000.000000 |

| 20 | ANALYST | 6000.00 | 3000.00 | 3000.00 | 2 | 3000.000000 |

| 20 | CLERK | 1900.00 | 1100.00 | 800.00 | 2 | 950.000000 |

| 20 | MANAGER | 2975.00 | 2975.00 | 2975.00 | 1 | 2975.000000 |

| 30 | CLERK | 950.00 | 950.00 | 950.00 | 1 | 950.000000 |

| 30 | MANAGER | 2850.00 | 2850.00 | 2850.00 | 1 | 2850.000000 |

| 30 | SALESMAN | 5600.00 | 1600.00 | 1250.00 | 4 | 1400.000000 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |

-----write query to find all department which has less than 2 Managers

select deptno,count(\*)

from emp

where job=’MANAGER’

group by deptno

having count(\*)<2;

----find how many employees are working under each mgr

select mgr,count(\*),sum(sal)

from emp

group by mgr;

-----find how many Salesman works under each mgr

select mgr,count(\*),sum(sal),min(sal)

from emp

where job=’SALESMAN’

group by mgr;

-------partition by

------ display deptno,ename,empno and sum of sal deparmentwise

select empno,ename,deptno,sum(sal) over (partition by deptno)

from emp;

select pno,company,pname,count(\*) over (partition by pname)

from product;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pno | Pname | Company | Count(\*) |  |
| 1 | Handbag | VIP | 30 |  |
| 2 | Sack | VIP | 30 |  |
| 3 | Handbag | Nike | 100 |  |
| 3 | Sack | Nike | 100 |  |
|  |  |  |  |  |

select pno,company,pname,count(\*) over (partition by pname)

from product;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pno | Company | Pname | Count |  |
| 1 | VIP | Handbag | 40 |  |
|  | NIKE | HandBag |  |  |
|  | VIP | Sack | 50 |  |
|  | Nike | Sack | 40 |  |