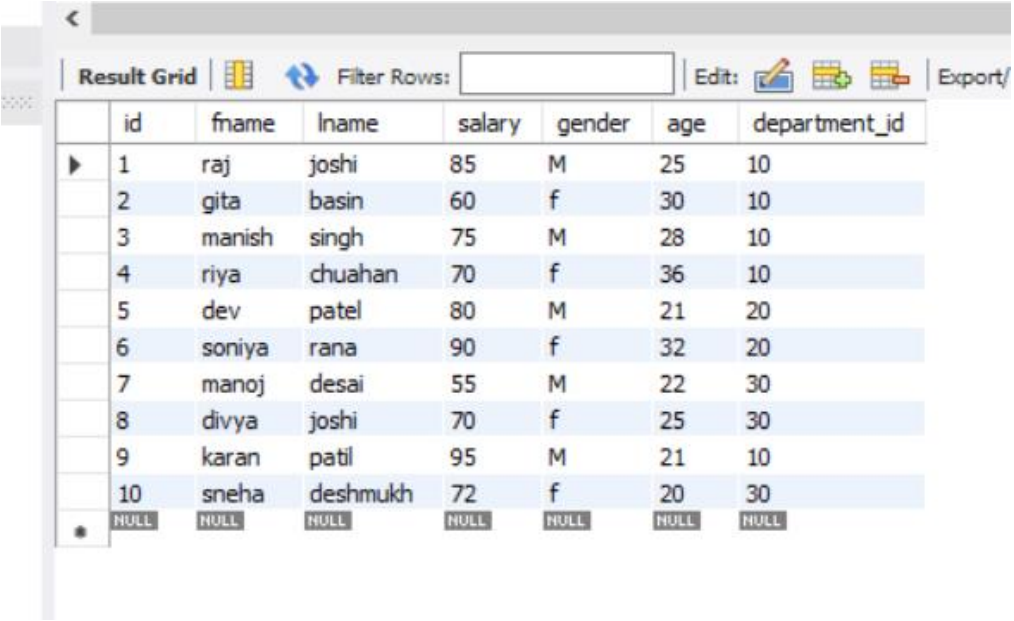
Aggregate function and grouping

Table:- <u>below is a emp1 table.</u>



id	fname	lname	salary	gender	age	department_id
1	raj	joshi	85	M	25	10
2	gita	basin	60	f	30	10
3	manish	singh	75	M	28	10
4	riya	chuahan	70	f	36	10
5	dev	patel	80	M	21	20
6	soniya	rana	90	f	32	20
7	manoj	desai	55	M	22	30
8	divya	joshi	70	f	25	30
9	karan	patil	95	M	21	10
10	sneha	deshmukh	72	f	20	30
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Aggregate function is also called as group function.it make group of records and executes it .

Types of aggregate function:

1) Min()
2) Max()
3) Avg()
4) Sum()
5) Count()

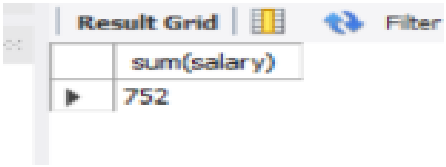
SUM();to get the total values we use a sum()

For e.g:-

To get the sum of salary of all employees

Code: -Select sum(salary) from emp1;

o/p: The sum of salary for all employees are 752.



```
sum(salary)
752
```

COUNT() :it is used to count no of records.

For e.g:_

To get total count of employees in emp1 table. We use count ().

Code :Select count(*) from emp1;

o/p:-The total count of employees are 10.

AVG(): to get average values

For e.g:

To get avg salary of employees in employee table we use avg().

Code: Select avg(salary) from emp1;

MAX (),MIN():- To get maximum or minimum value

For e.g

To get maximum salary of employees by department id

Code: select max(salary) , department_id from emp1 group by deparment_id;

Group by clause : it is use to group a records. We can pass column name , expression as a argument in group by clause.

It executes row by row

For e.g:-

To get no of employees and avg salary needed to pay to employees whos salary is greater than 60 in each department.

Code:-

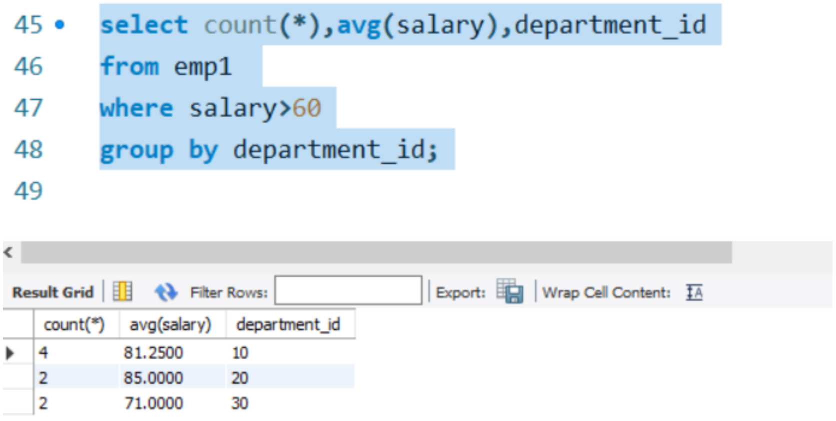
```
select count(*),avg(salary),department_id

from emp1

where salary>60

group by department_id;
```

o/p:-



```
select count(*),avg(salary),department_id
from emp1
where salary>60
group by department_id;
```

count(*)	avg(salary)	department_id
4	81.2500	10
2	85.0000	20
2	71.0000	30

Having clause:-

 having clause is used to filter a group it excecutes group b group we pass column name or expression as a argument in having clause

for e.g :

write a query to determine no of employees having highest salary greater than 25 in each department and age should be greater than 25.

Code:-

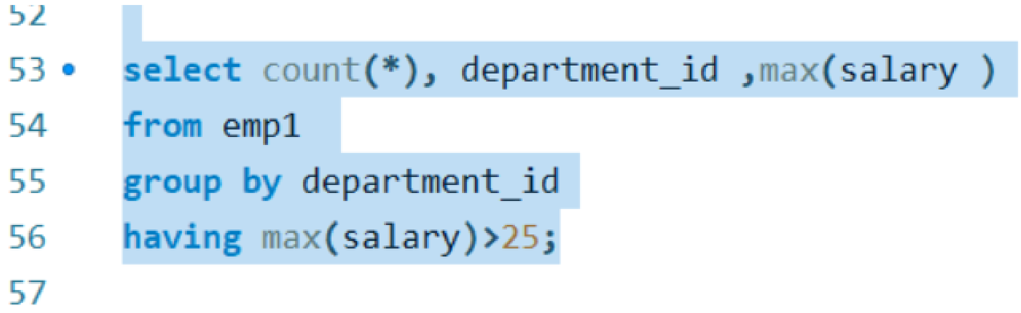
select count(*), department_id ,max(salary)

from emp1

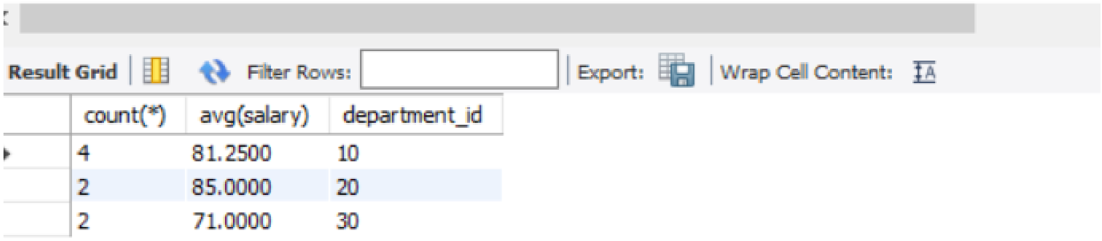
group by department_id

having max(salary)>25;

O/P:



```
select count(*), department_id ,max(salary )
from emp1
group by department_id
having max(salary)>25;
```



count(*)	avg(salary)	department_id
4	81.2500	10
2	85.0000	20
2	71.0000	30