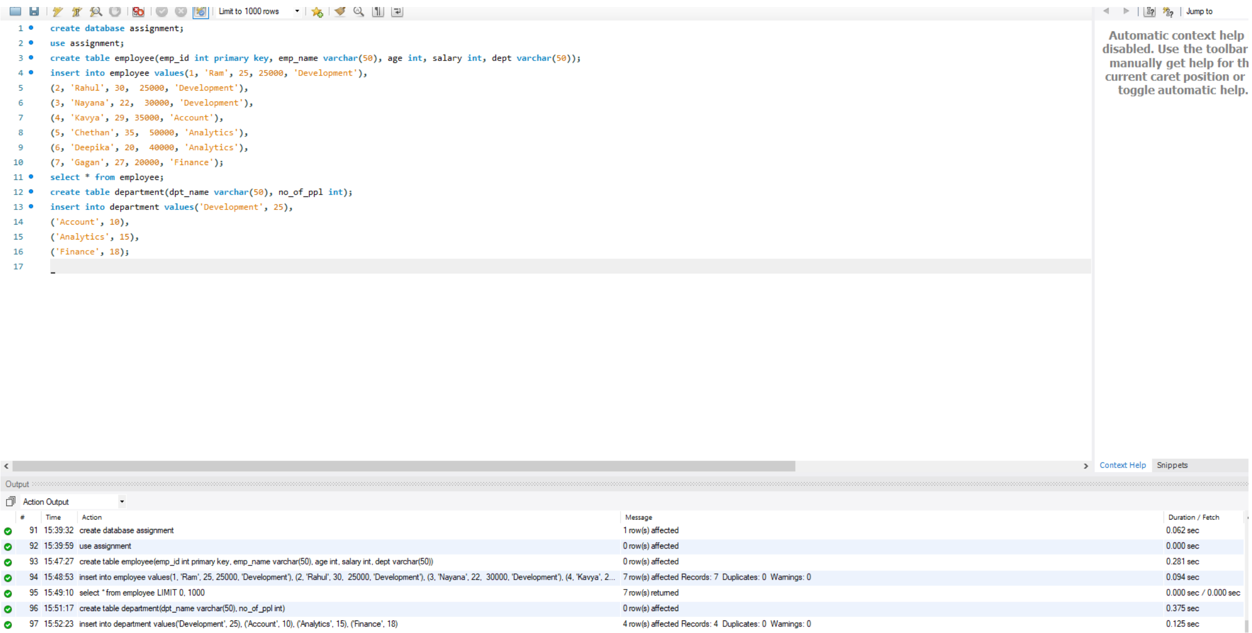
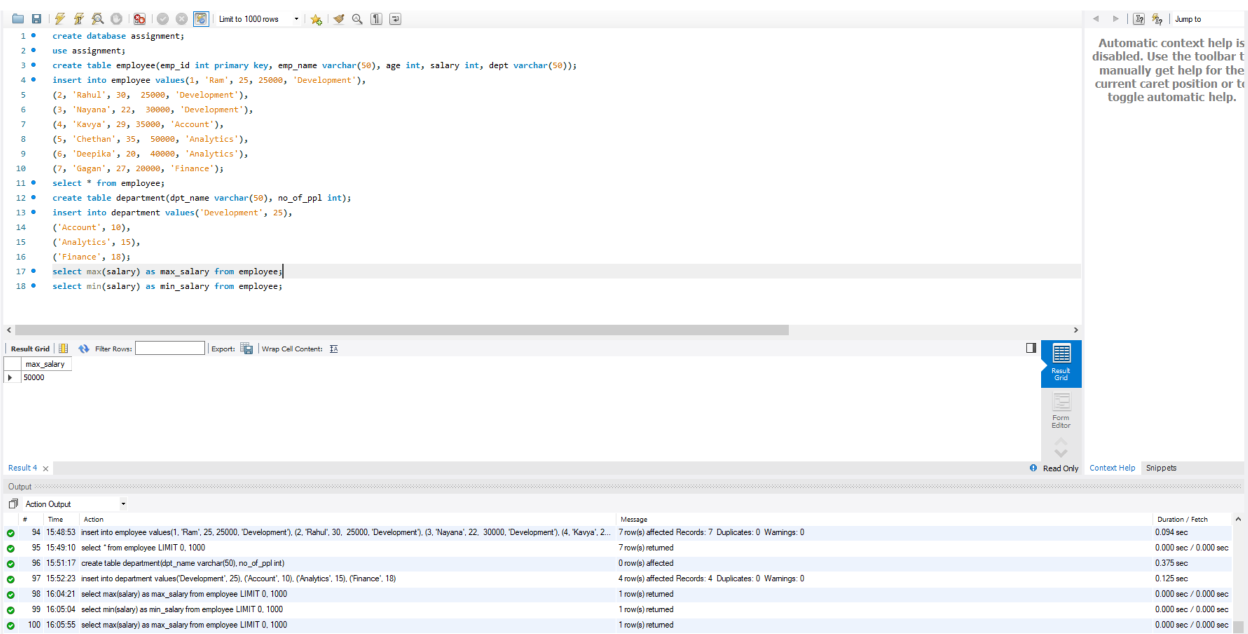
SQL Assignment

Create tables:

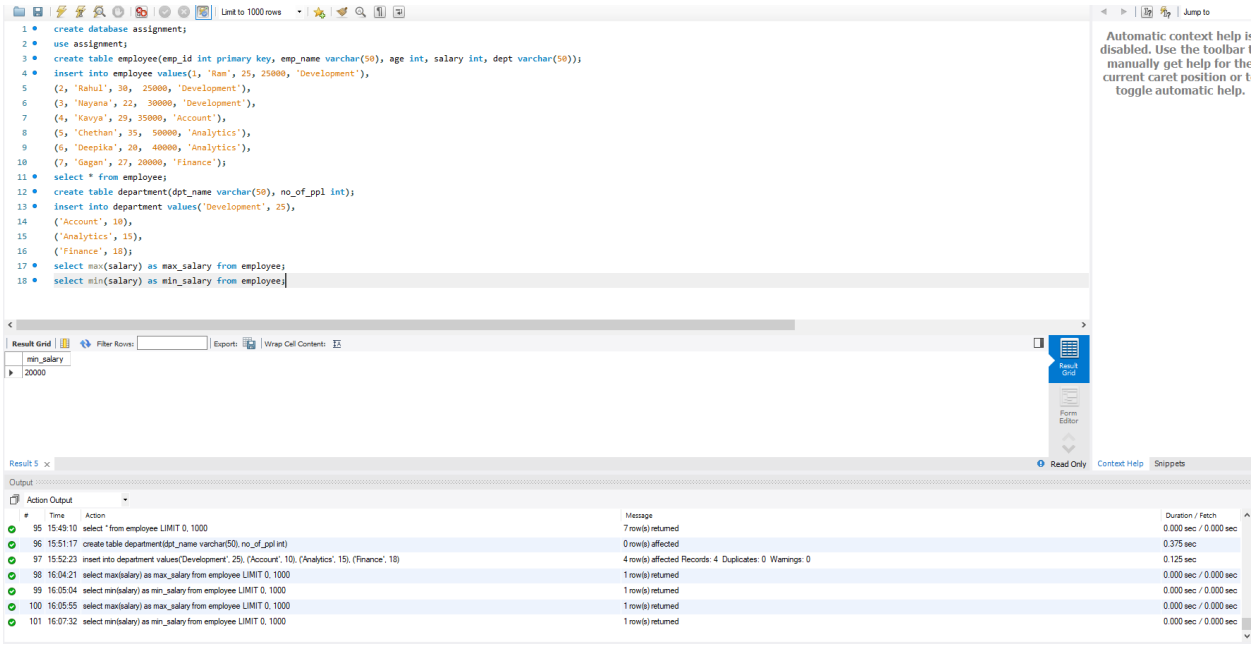


1. Subquery to find max and min salary:

Max salary output:



Min salary output:



```
create database assignment;
use assignment;
create table employee(emp_id int primary key, emp_name varchar(50), age int, salary int, dept varchar(50));
insert into employee values(1, 'Ram', 25, 25000, 'Development'),
(2, 'Rahul', 30,  25000, 'Development'),
(3, 'Nayana', 22,  30000, 'Development'),
(4, 'Kavya', 29, 35000, 'Account'),
(5, 'Chethan', 35,  50000, 'Analytics'),
(6, 'Deepika', 20,  40000, 'Analytics'),
(7, 'Gagan', 27, 20000, 'Finance');
select * from employee;
create table department(dpt_name varchar(50), no_of_ppl int);
insert into department values('Development', 25),
('Account', 10),
('Analytics', 15),
('Finance', 18);
select max(salary) as max_salary from employee;
select min(salary) as min_salary from employee;
```

Result Grid

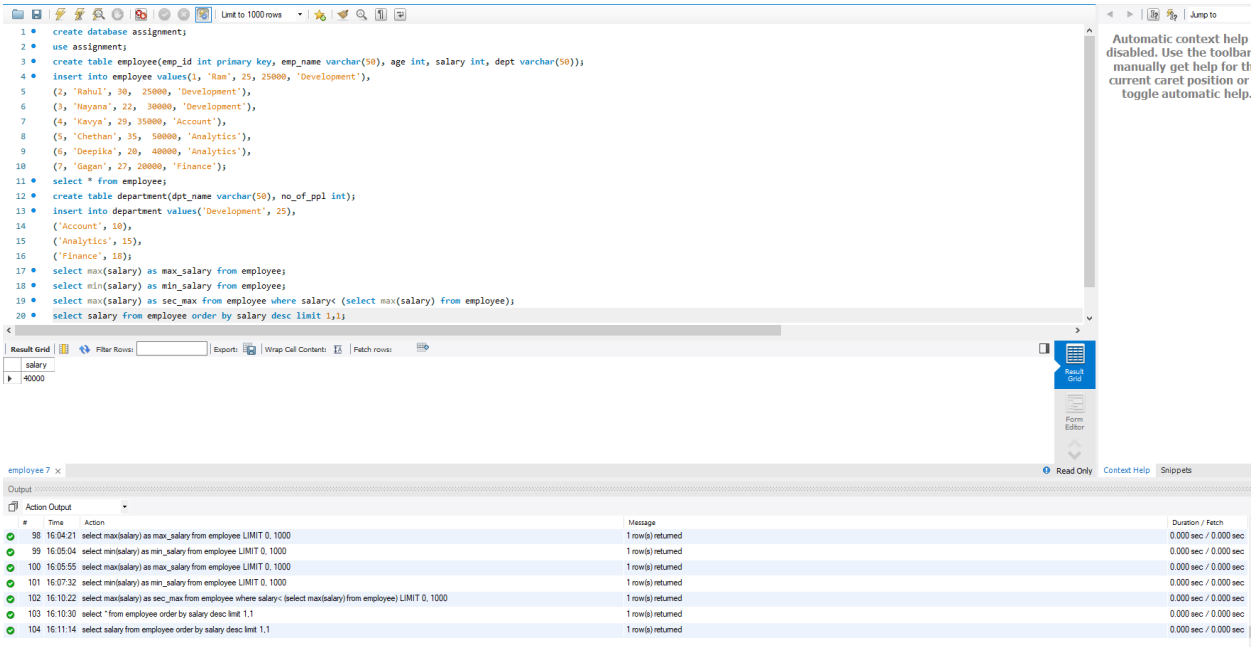
min_salary
20000

Output

Action Output

#	Time	Action	Message	Duration / Fetch
95	15:49:10	select * from employee LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
96	15:51:17	create table department(dpt_name varchar(50), no_of_ppl int)	0 row(s) affected	0.375 sec
97	15:52:23	insert into department values('Development', 25), ('Account', 10), ('Analytics', 15), ('Finance', 18)	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.125 sec
98	16:04:21	select max(salary) as max_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
99	16:05:04	select min(salary) as min_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
100	16:05:55	select max(salary) as max_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
101	16:07:32	select min(salary) as min_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

2. Finding second highest salary using subquery or limit:



```
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use assignment;
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insert into employee values(1, 'Ram', 25, 25000, 'Development'),
(2, 'Rahul', 30,  25000, 'Development'),
(3, 'Nayana', 22,  30000, 'Development'),
(4, 'Kavya', 29, 35000, 'Account'),
(5, 'Chethan', 35,  50000, 'Analytics'),
(6, 'Deepika', 20,  40000, 'Analytics'),
(7, 'Gagan', 27, 20000, 'Finance');
select * from employee;
create table department(dpt_name varchar(50), no_of_ppl int);
insert into department values('Development', 25),
('Account', 10),
('Analytics', 15),
('Finance', 18);
select max(salary) as max_salary from employee;
select min(salary) as min_salary from employee;
select max(salary) as sec_max from employee where salary< (select max(salary) from employee);
select salary from employee order by salary desc limit 1,1;
```

Result Grid

salary
40000

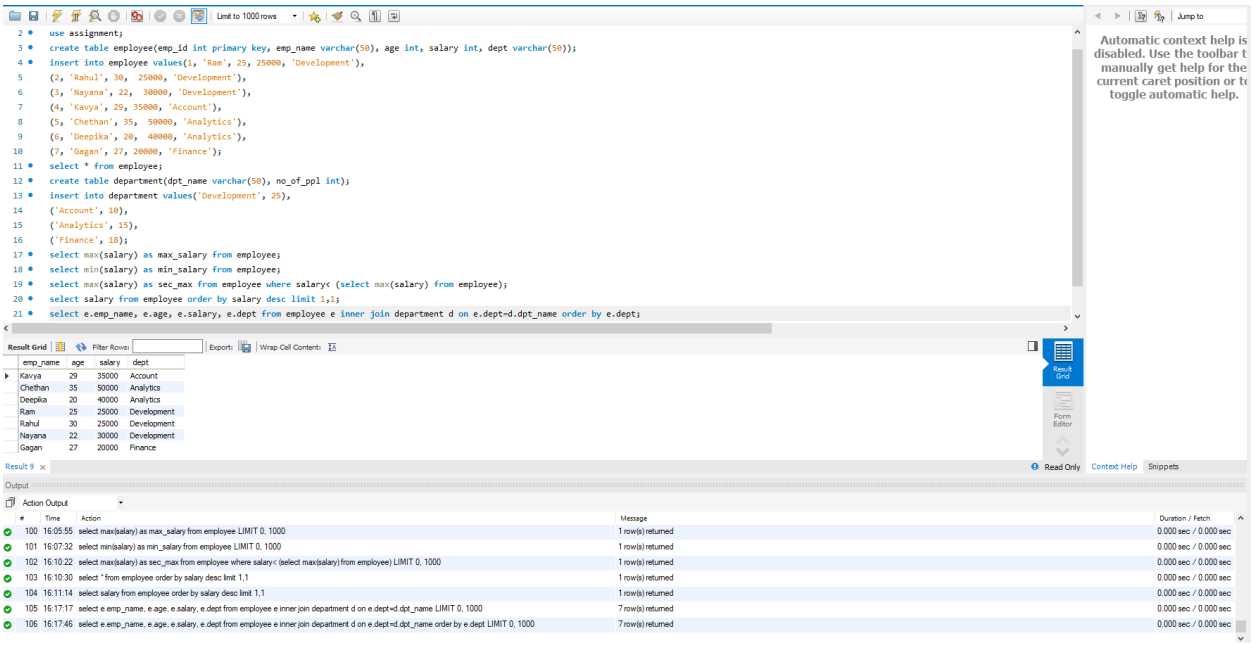
Output

Action Output

#	Time	Action	Message	Duration / Fetch
98	16:04:21	select max(salary) as max_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
99	16:05:04	select min(salary) as min_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
100	16:05:55	select max(salary) as max_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
101	16:07:32	select min(salary) as min_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
102	16:10:22	select max(salary) as sec_max from employee where salary< (select max(salary) from employee) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
103	16:10:30	select * from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
104	16:11:14	select salary from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec

3. Query to implement all the joins

   Inner join:



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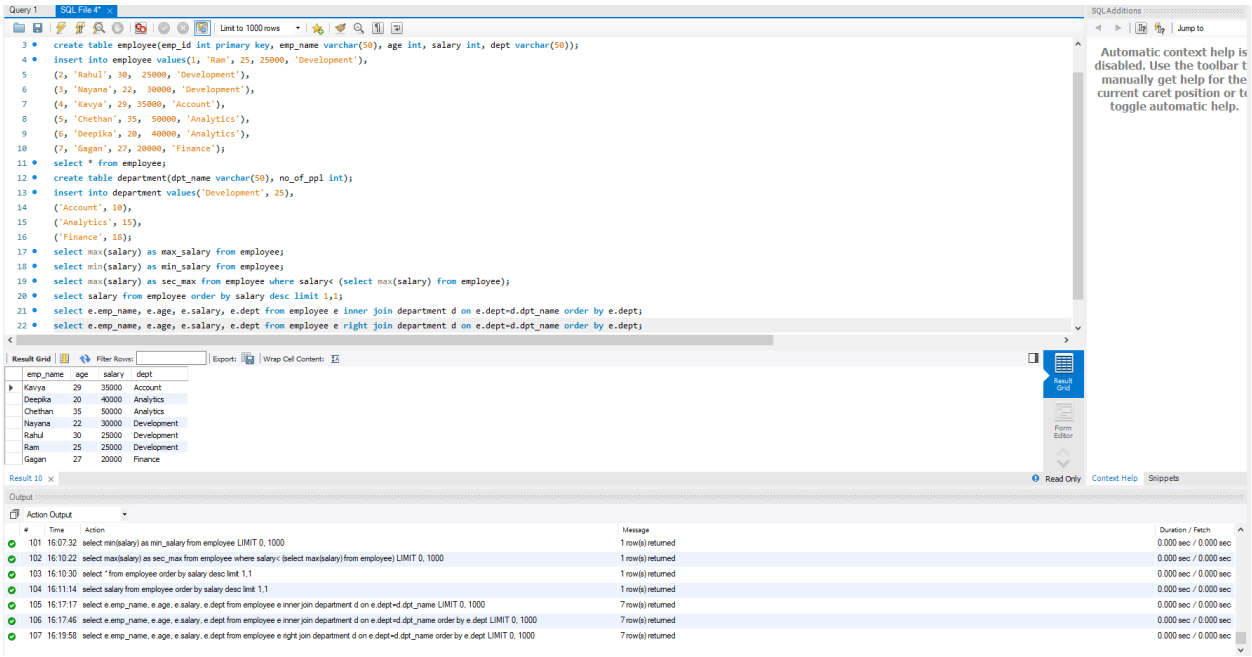
use assignment;
create table employee(emp_id int primary key, emp_name varchar(50), age int, salary int, dept varchar(50));
insert into employee values(1, 'Ram', 25, 25000, 'Development'),
(2, 'Rahul', 30,  25000, 'Development'),
(3, 'Nayana', 22,  30000, 'Development'),
(4, 'Kavya', 29, 35000, 'Account'),
(5, 'Chethan', 35,  50000, 'Analytics'),
(6, 'Deepika', 20,  40000, 'Analytics'),
(7, 'Gagan', 27, 20000, 'Finance');
select * from employee;
create table department(dpt_name varchar(50), no_of_ppl int);
insert into department values('Development', 25),
('Account', 10),
('Analytics', 15),
('Finance', 18);
select max(salary) as max_salary from employee;
select min(salary) as min_salary from employee;
select max(salary) as sec_max from employee where salary< (select max(salary) from employee);
select salary from employee order by salary desc limit 1,1;
select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept;
```

emp_name	age	salary	dept
Kavya	29	35000	Account
Chethan	35	50000	Analytics
Deepika	20	40000	Analytics
Ram	25	25000	Development
Rahul	30	25000	Development
Nayana	22	30000	Development
Gagan	27	20000	Finance

#	Time	Action	Message	Duration / Fetch
100	16:05:55	select max(salary) as max_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
101	16:07:32	select min(salary) as min_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
102	16:10:22	select max(salary) as sec_max from employee where salary< (select max(salary) from employee) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
103	16:10:30	select * from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
104	16:11:14	select salary from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
105	16:17:17	select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
106	16:17:46	select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec

Right join:

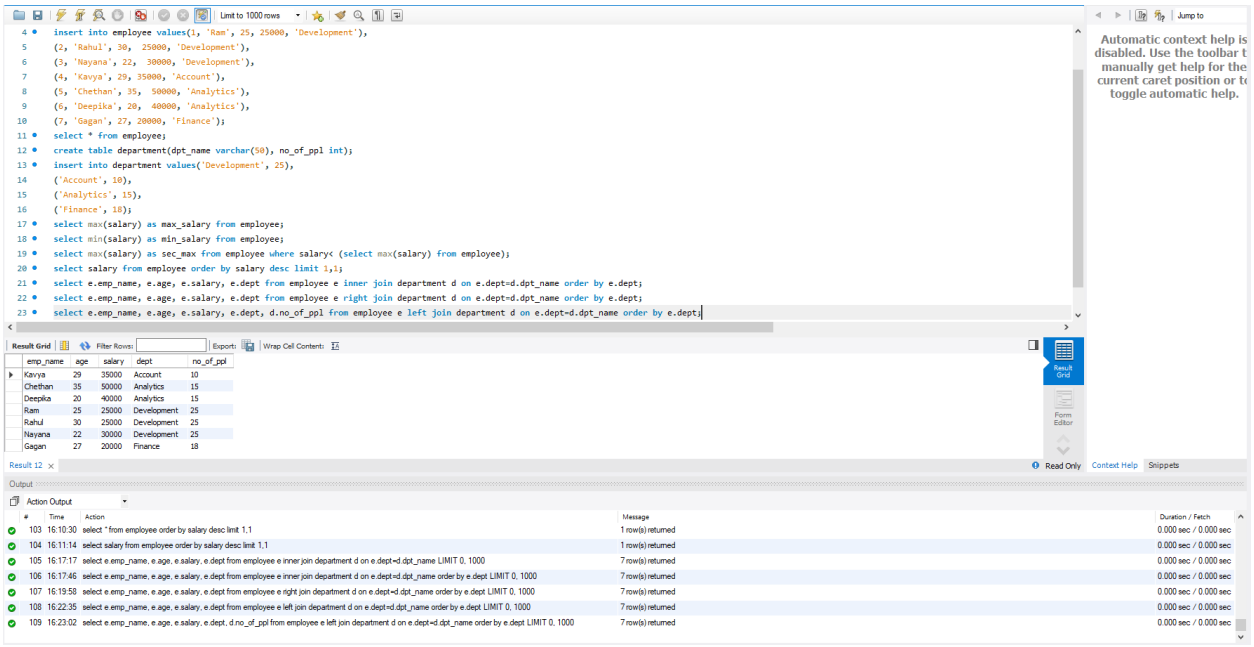


```
create table employee(emp_id int primary key, emp_name varchar(50), age int, salary int, dept varchar(50));
insert into employee values(1, 'Ram', 25, 25000, 'Development'),
(2, 'Rahul', 30,  25000, 'Development'),
(3, 'Nayana', 22,  30000, 'Development'),
(4, 'Kavya', 29, 35000, 'Account'),
(5, 'Chethan', 35,  50000, 'Analytics'),
(6, 'Deepika', 20,  40000, 'Analytics'),
(7, 'Gagan', 27, 20000, 'Finance');
select * from employee;
create table department(dpt_name varchar(50), no_of_ppl int);
insert into department values('Development', 25),
('Account', 10),
('Analytics', 15),
('Finance', 18);
select max(salary) as max_salary from employee;
select min(salary) as min_salary from employee;
select max(salary) as sec_max from employee where salary< (select max(salary) from employee);
select salary from employee order by salary desc limit 1,1;
select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept;
select e.emp_name, e.age, e.salary, e.dept from employee e right join department d on e.dept=d.dpt_name order by e.dept;
```

emp_name	age	salary	dept
Kavya	29	35000	Account
Deepika	20	40000	Analytics
Chethan	35	50000	Analytics
Nayana	22	30000	Development
Rahul	30	25000	Development
Ram	25	25000	Development
Gagan	27	20000	Finance

#	Time	Action	Message	Duration / Fetch
101	16:07:32	select min(salary) as min_salary from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
102	16:10:22	select max(salary) as sec_max from employee where salary< (select max(salary) from employee) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
103	16:10:30	select * from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
104	16:11:14	select salary from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
105	16:17:17	select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
106	16:17:46	select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
107	16:19:58	select e.emp_name, e.age, e.salary, e.dept from employee e right join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec

Left join:

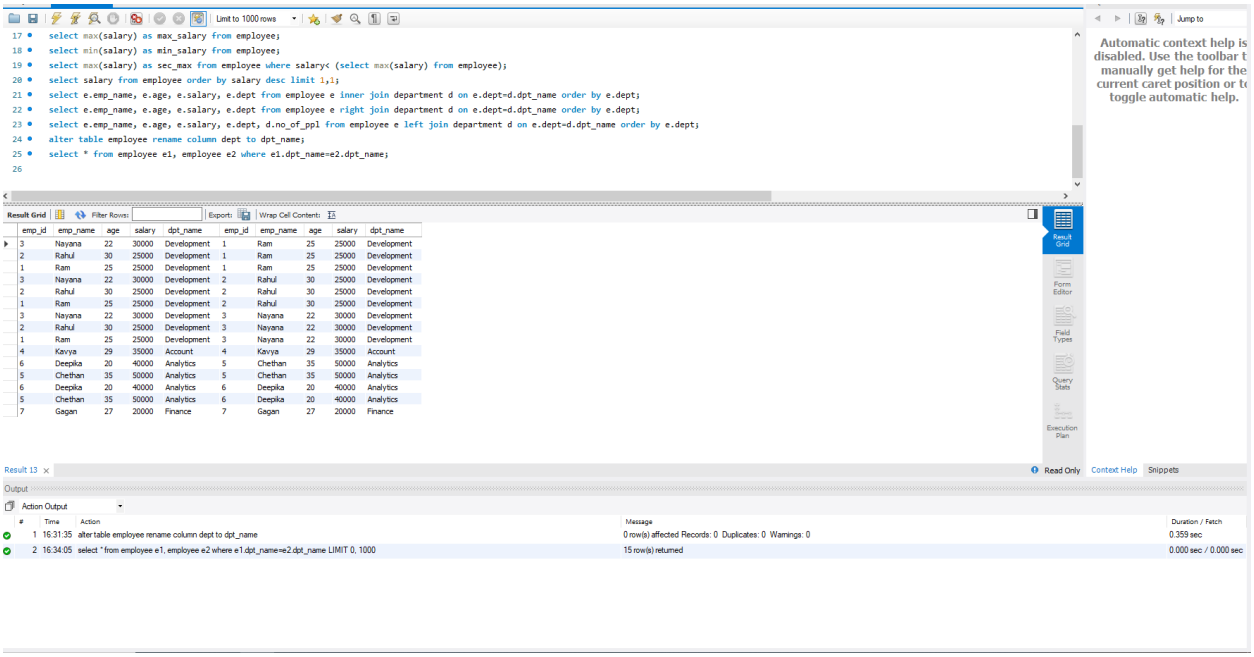


```
insert into employee values(1, 'Ram', 25, 25000, 'Development'),
(2, 'Rahul', 30,  25000, 'Development'),
(3, 'Nayana', 22,  30000, 'Development'),
(4, 'Kavya', 29, 35000, 'Account'),
(5, 'Chethan', 35,  50000, 'Analytics'),
(6, 'Deepika', 20,  40000, 'Analytics'),
(7, 'Gagan', 27, 20000, 'finance');
select * from employee;
create table department(dpt_name varchar(50), no_of_ppl int);
insert into department values('Development', 25),
('Account', 10),
('Analytics', 15),
('Finance', 18);
select max(salary) as max_salary from employee;
select min(salary) as min_salary from employee;
select max(salary) as sec_max from employee where salary< (select max(salary) from employee);
select salary from employee order by salary desc limit 1,1;
select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept;
select e.emp_name, e.age, e.salary, e.dept from employee e right join department d on e.dept=d.dpt_name order by e.dept;
select e.emp_name, e.age, e.salary, e.dept, d.no_of_ppl from employee e left join department d on e.dept=d.dpt_name order by e.dept;
```

emp_name	age	salary	dept	no_of_ppl
Kavya	29	35000	Account	10
Chethan	35	50000	Analytics	15
Deepika	20	40000	Analytics	15
Ram	25	25000	Development	25
Rahul	30	25000	Development	25
Nayana	22	30000	Development	25
Gagan	27	20000	Finance	18

#	Time	Action	Message	Duration / Fetch
103	16:10:30	select * from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
104	16:11:14	select salary from employee order by salary desc limit 1,1	1 row(s) returned	0.000 sec / 0.000 sec
105	16:17:17	select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
106	16:17:46	select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
107	16:19:58	select e.emp_name, e.age, e.salary, e.dept from employee e right join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
108	16:22:35	select e.emp_name, e.age, e.salary, e.dept from employee e left join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
109	16:23:02	select e.emp_name, e.age, e.salary, e.dept, d.no_of_ppl from employee e left join department d on e.dept=d.dpt_name order by e.dept LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec

Self joint:

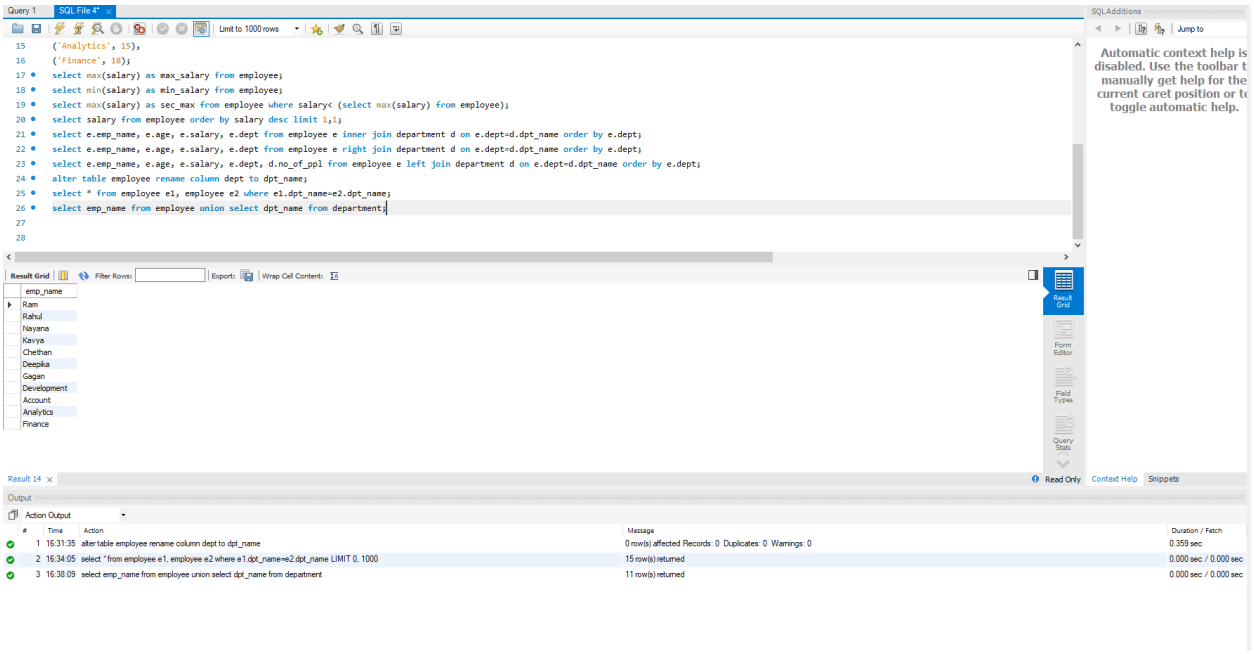


```
select max(salary) as max_salary from employee;
select min(salary) as min_salary from employee;
select max(salary) as sec_max from employee where salary< (select max(salary) from employee);
select salary from employee order by salary desc limit 1,1;
select e.emp_name, e.age, e.salary, e.dept from employee e inner join department d on e.dept=d.dpt_name order by e.dept;
select e.emp_name, e.age, e.salary, e.dept from employee e right join department d on e.dept=d.dpt_name order by e.dept;
select e.emp_name, e.age, e.salary, e.dept, d.no_of_ppl from employee e left join department d on e.dept=d.dpt_name order by e.dept;
alter table employee rename column dept to dpt_name;
select * from employee e1, employee e2 where e1.dpt_name=e2.dpt_name;
```

emp_id	emp_name	age	salary	dpt_name	emp_id	emp_name	age	salary	dpt_name
3	Nayana	22	30000	Development	1	Ram	25	25000	Development
2	Rahul	30	25000	Development	1	Ram	25	25000	Development
1	Ram	25	25000	Development	1	Ram	25	25000	Development
3	Nayana	22	30000	Development	2	Rahul	30	25000	Development
2	Rahul	30	25000	Development	2	Rahul	30	25000	Development
1	Ram	25	25000	Development	2	Rahul	30	25000	Development
3	Nayana	22	30000	Development	3	Nayana	22	30000	Development
2	Rahul	30	25000	Development	3	Nayana	22	30000	Development
1	Ram	25	25000	Development	3	Nayana	22	30000	Development
4	Kavya	29	35000	Account	4	Kavya	29	35000	Account
6	Deepika	20	40000	Analytics	5	Chethan	35	50000	Analytics
5	Chethan	35	50000	Analytics	5	Chethan	35	50000	Analytics
6	Deepika	20	40000	Analytics	6	Deepika	20	40000	Analytics
5	Chethan	35	50000	Analytics	6	Deepika	20	40000	Analytics
7	Gagan	27	20000	Finance	7	Gagan	27	20000	Finance

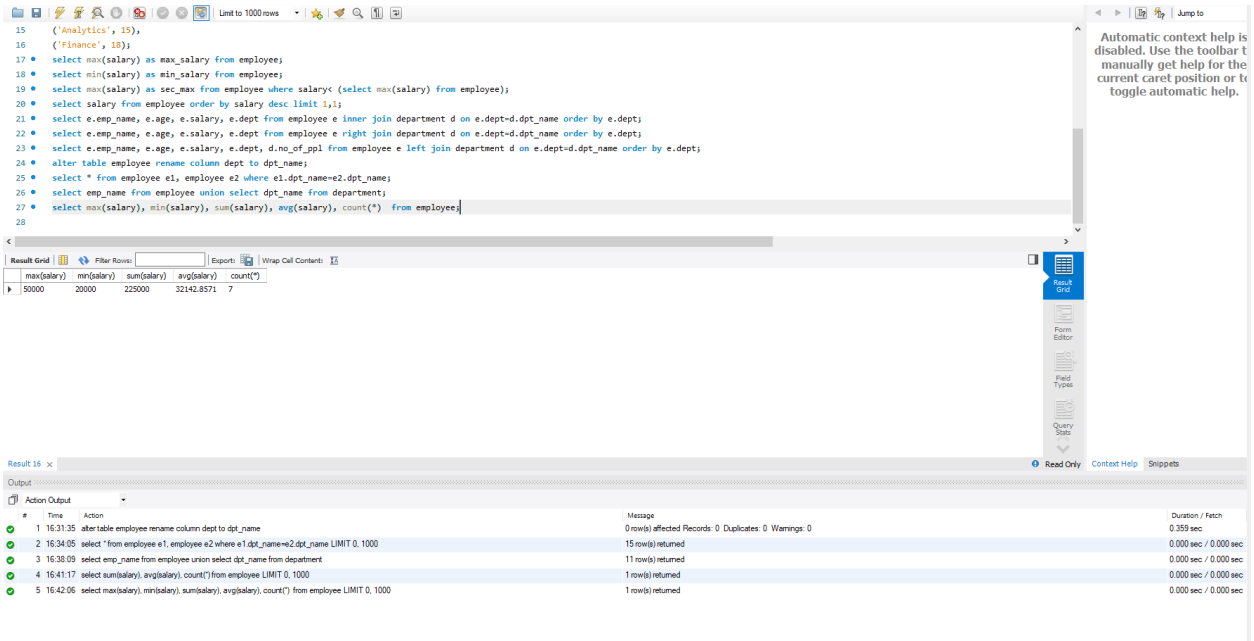
#	Time	Action	Message	Duration / Fetch
1	16:31:35	alter table employee rename column dept to dpt_name	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.359 sec
2	16:34:05	select * from employee e1, employee e2 where e1.dpt_name=e2.dpt_name LIMIT 0, 1000	15 row(s) returned	0.000 sec / 0.000 sec

Union:



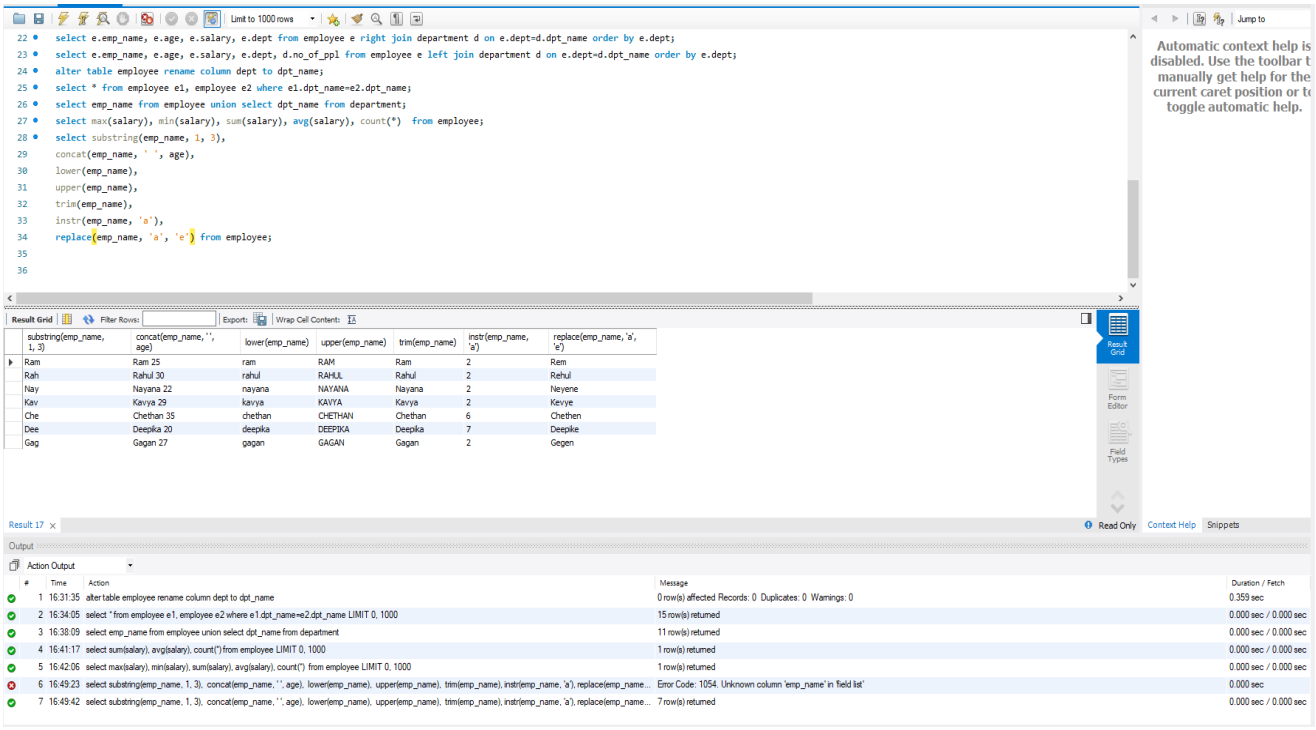
4. Query to implement all aggregation functions

Output: max(), min(), sum(), avg(), count()



5. Query to implement all string functions

Output: substring(), concat(), upper(), lower(), trim(), instr(), replace()



```
22 • select e.emp_name, e.age, e.salary, e.dept from employee e right join department d on e.dept=d.dpt_name order by e.dept;
23 • select e.emp_name, e.age, e.salary, e.dept, d.no_of_ppl from employee e left join department d on e.dept=d.dpt_name order by e.dept;
24 • alter table employee rename column dept to dpt_name;
25 • select * from employee e1, employee e2 where e1.dpt_name=e2.dpt_name;
26 • select emp_name from employee union select dpt_name from department;
27 • select max(salary), min(salary), sum(salary), avg(salary), count(*)  from employee;
28 • select substring(emp_name, 1, 3),
29    concat(emp_name, ' ', age),
30    lower(emp_name),
31    upper(emp_name),
32    trim(emp_name),
33    instr(emp_name, 'a'),
34    replace(emp_name, 'a', 'e') from employee;
35
36
```

Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

substring(emp_name, 1, 3)	concat(emp_name, ' ', age)	lower(emp_name)	upper(emp_name)	trim(emp_name)	instr(emp_name, 'a')	replace(emp_name, 'a', 'e')
Ram	Ram 25	ram	RAM	Ram	2	Rem
Rah	Rahul 30	rahul	RAHUL	Rahul	2	Rehul
Nay	Nayana 22	nayana	NAYANA	Nayana	2	Neyene
Kav	Kavya 29	kavya	KAVYA	Kavya	2	Kevye
Che	Chethan 35	chethan	CHETHAN	Chethan	6	Chethen
Dee	Deepika 20	deepika	DEEPIKA	Deepika	7	Deepike
Gag	Gagan 27	gagan	GAGAN	Gagan	2	Gegen

Result Grid | Form Editor | Field Types

Result 17 | Read Only | Context Help | Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	16:31:35	alter table employee rename column dept to dpt_name	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.359 sec
2	16:34:05	select * from employee e1, employee e2 where e1.dpt_name=e2.dpt_name LIMIT 0, 1000	15 row(s) returned	0.000 sec / 0.000 sec
3	16:38:09	select emp_name from employee union select dpt_name from department	11 row(s) returned	0.000 sec / 0.000 sec
4	16:41:17	select sum(salary), avg(salary), count(*) from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
5	16:42:06	select max(salary), min(salary), sum(salary), avg(salary), count(*) from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
6	16:49:23	select substring(emp_name, 1, 3), concat(emp_name, ' ', age), lower(emp_name), upper(emp_name), trim(emp_name), instr(emp_name, 'a'), replace(emp_name...	Error Code: 1054. Unknown column 'emp_name' in 'field list'	0.000 sec
7	16:49:42	select substring(emp_name, 1, 3), concat(emp_name, ' ', age), lower(emp_name), upper(emp_name), trim(emp_name), instr(emp_name, 'a'), replace(emp_name...	7 row(s) returned	0.000 sec / 0.000 sec