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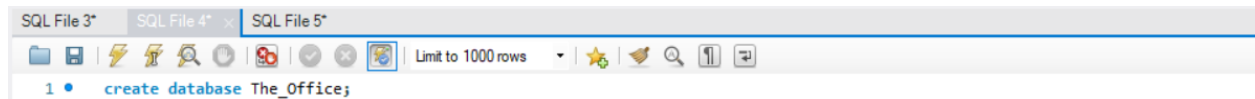
CSE370: Database Systems

Brac University

Lab 04: Database Challenge 01

- Create and use the database "The_Office"

create database The_Office;

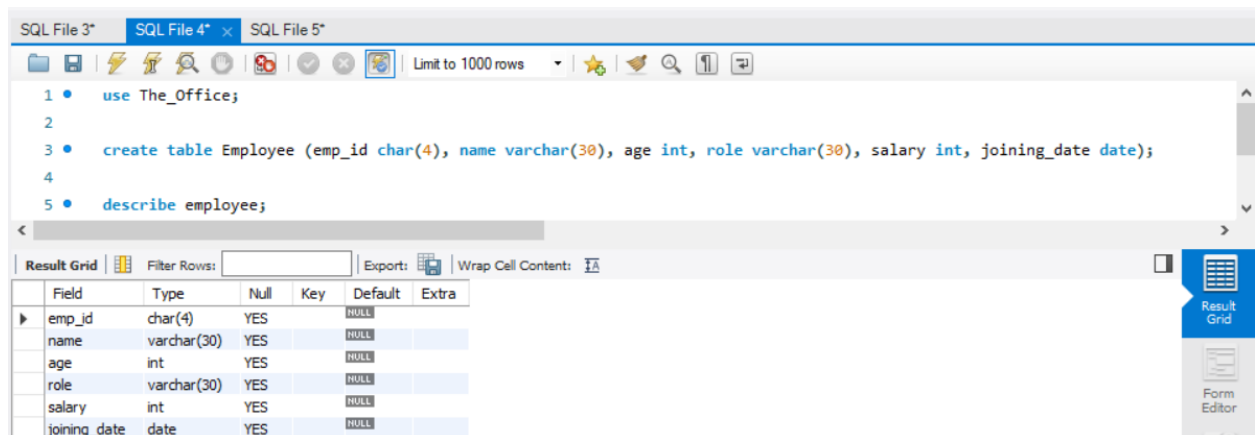


- Create Employee tables

use The_Office;

create table Employee (emp_id char(4), name varchar(30), age int, role varchar(30), salary int, joining_date date);

describe table employee;



- Insert Data into the Tables

use The_Office;

*insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E001', 'Michael Scott', 40, 'Manager', 100000, '1999-09-20');*

*insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E002', 'Jim Harper', 30, 'Sales Executive', 60000, '2004-09-30');*

*insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E003', 'Pam Beesly', 28, 'Receptionist', 25000, '2003-09-30');*

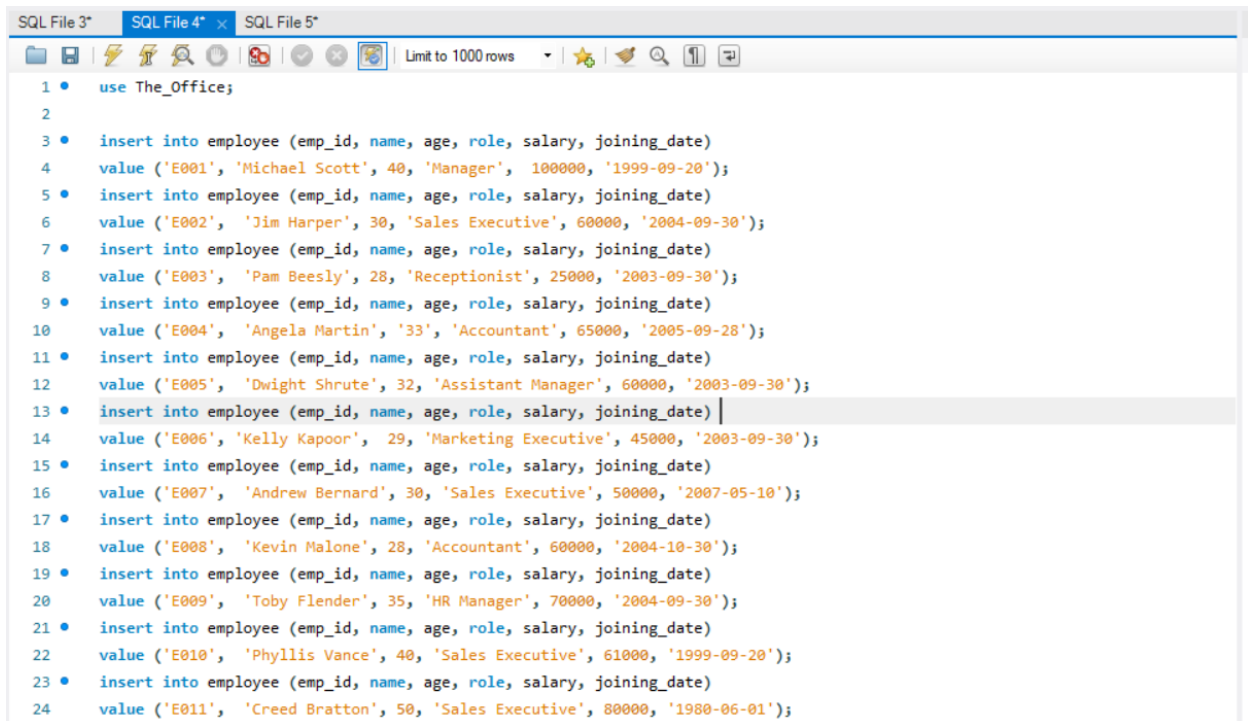
```
insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E004', 'Angela Martin', 33, 'Accountant', 65000, '2005-09-28');
```

```
insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E005', 'Dwight Shrute', 32, 'Assistant Manager', 60000, '2003-09-30');
```

```
insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E006', 'Kelly Kapoor', 29, 'Marketing Executive', 45000, '2003-09-30');
```

```
insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E007', 'Andrew Bernard', 30, 'Sales Executive', 50000, '2007-05-10');
```

```
insert into employee (emp_id, name, age, role, salary, joining_date)
value ('E008', 'Kevin Malone', 28, 'Accountant', 60000, '2004-10-30');
```



```
SQL File 3*  SQL File 4*  SQL File 5*
Limit to 1000 rows
1 • use The_Office;
2
3 • insert into employee (emp_id, name, age, role, salary, joining_date)
4 value ('E001', 'Michael Scott', 40, 'Manager', 100000, '1999-09-20');
5 • insert into employee (emp_id, name, age, role, salary, joining_date)
6 value ('E002', 'Jim Harper', 30, 'Sales Executive', 60000, '2004-09-30');
7 • insert into employee (emp_id, name, age, role, salary, joining_date)
8 value ('E003', 'Pam Beesly', 28, 'Receptionist', 25000, '2003-09-30');
9 • insert into employee (emp_id, name, age, role, salary, joining_date)
10 value ('E004', 'Angela Martin', 33, 'Accountant', 65000, '2005-09-28');
11 • insert into employee (emp_id, name, age, role, salary, joining_date)
12 value ('E005', 'Dwight Shrute', 32, 'Assistant Manager', 60000, '2003-09-30');
13 • insert into employee (emp_id, name, age, role, salary, joining_date) |
14 value ('E006', 'Kelly Kapoor', 29, 'Marketing Executive', 45000, '2003-09-30');
15 • insert into employee (emp_id, name, age, role, salary, joining_date)
16 value ('E007', 'Andrew Bernard', 30, 'Sales Executive', 50000, '2007-05-10');
17 • insert into employee (emp_id, name, age, role, salary, joining_date)
18 value ('E008', 'Kevin Malone', 28, 'Accountant', 60000, '2004-10-30');
19 • insert into employee (emp_id, name, age, role, salary, joining_date)
20 value ('E009', 'Toby Flender', 35, 'HR Manager', 70000, '2004-09-30');
21 • insert into employee (emp_id, name, age, role, salary, joining_date)
22 value ('E010', 'Phyllis Vance', 40, 'Sales Executive', 61000, '1999-09-20');
23 • insert into employee (emp_id, name, age, role, salary, joining_date)
24 value ('E011', 'Creed Bratton', 50, 'Sales Executive', 80000, '1980-06-01');
```

Employee Table:

	emp_id	name	age	role	salary	joining_date
▶	E001	Michael Scott	40	Manager	100000	1999-09-20
	E002	Jim Harper	30	Sales Executive	60000	2004-09-30
	E003	Pam Beesly	28	Receptionist	25000	2003-09-30
	E004	Angela Martin	33	Accountant	65000	2005-09-28
	E005	Dwight Shrute	32	Assistant Manager	60000	2003-09-30
	E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30
	E007	Andrew Bernard	30	Sales Executive	50000	2007-05-10
	E008	Kevin Malone	28	Accountant	60000	2004-10-30
	E009	Toby Flender	35	HR Manager	70000	2004-09-30
	E010	Phyllis Vance	40	Sales Executive	61000	1999-09-20
	E011	Creed Bratton	50	Sales Executive	80000	1980-06-01

- Find the Name and Role of Employees whose Name starts with “a” or ends with “e”

use The_Office;

select name, role from employee where name like 'a%' or name like '%e';

The screenshot shows a SQL IDE interface with three tabs: "SQL File 3*", "SQL File 4*", and "SQL File 5*". The "SQL File 4*" tab is active, displaying the following SQL code:

```
1 • use The_Office;
2
3 • select name, role from employee where name like 'a%' or name like '%e';
4
```

Below the code editor, there is a "Result Grid" section. It includes a "Filter Rows:" input field, an "Export:" button, and a "Wrap Cell Content:" checkbox. The result grid displays the following data:

name	role
▶ Angela Martin	Accountant
Dwight Shrute	Assistant Manager
Andrew Bernard	Sales Executive
Kevin Malone	Accountant
Phyllis Vance	Sales Executive

On the right side of the interface, there are buttons for "Result Grid" and "Form Editor".

- **Find the details of Employees who have Salary between 40000 and 60000**

use The_Office;

*select * from employee where salary between 40000 and 60000;*

The screenshot shows a SQL IDE window titled 'SQL File 4'. The query editor contains the following SQL code:

```
1 • use The_Office;
2
3 • select * from employee where salary between 40000 and 60000;
4
```

Below the query editor, the 'Result Grid' is displayed, showing the results of the query. The grid has columns: emp_id, name, age, role, salary, and joining_date. The results are as follows:

emp_id	name	age	role	salary	joining_date
E002	Jim Harper	30	Sales Executive	60000	2004-09-30
E005	Dwight Shrute	32	Assistant Manager	60000	2003-09-30
E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30
E007	Andrew Bernard	30	Sales Executive	50000	2007-05-10
E008	Kevin Malone	28	Accountant	60000	2004-10-30

- **Find the details of Employees who have joined before the Year 2000**

use The_Office;

*select * from employee where joining_date < '2000-01-01';*

The screenshot shows a SQL IDE window titled 'SQL File 4'. The query editor contains the following SQL code:

```
1 • use The_Office;
2
3 • select * from employee where joining_date < '2000-01-01';
4
```

Below the query editor, the 'Result Grid' is displayed, showing the results of the query. The grid has columns: emp_id, name, age, role, salary, and joining_date. The results are as follows:

emp_id	name	age	role	salary	joining_date
E001	Michael Scott	40	Manager	100000	1999-09-20
E010	Phyllis Vance	40	Sales Executive	61000	1999-09-20
E011	Creed Bratton	50	Sales Executive	80000	1980-06-01

- **There will be 5% raise in Salary for all Sales executives, as they have done an excellent job last year. Update the table with the new raised Salary. Check if the Salary was updated.**

use The_Office;

*update employee set salary = salary + salary * (5 / 100) where role = 'Sales Executive';*

*select * from employee;*

SQL File 4* x SQL File 5*

```

1 • use The_Office;
2
3 • update employee set salary = salary + salary * (5 / 100) where role = 'Sales Executive';
4
5 • select * from employee;

```

Limit to 1000 rows

Result Grid

emp_id	name	age	role	salary	joining_date
E001	Michael Scott	40	Manager	100000	1999-09-20
E002	Jim Harper	30	Sales Executive	63000	2004-09-30
E003	Pam Beesly	28	Receptionist	25000	2003-09-30
E004	Angela Martin	33	Accountant	65000	2005-09-28
E005	Dwight Shrute	32	Assistant Manager	60000	2003-09-30
E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30
E007	Andrew Bernard	30	Sales Executive	52500	2007-05-10
E008	Kevin Malone	28	Accountant	60000	2004-10-30

- **Michael Scott will get a bonus of 20% on his salary for excellent leadership initiatives in last year. Calculate his bonus and use alias ("Michael_Bonus") for the column header**

use The_Office;

*select name, salary + salary * (20 / 100) as Michael_Bonus from employee where name = 'Michael Scott';*

SQL File 4* x SQL File 5*

```

1 • use The_Office;
2
3 • select name, salary + salary * (20 / 100) as Michael_Bonus from employee where name = 'Michael Scott';
4
5

```

Limit to 1000 rows

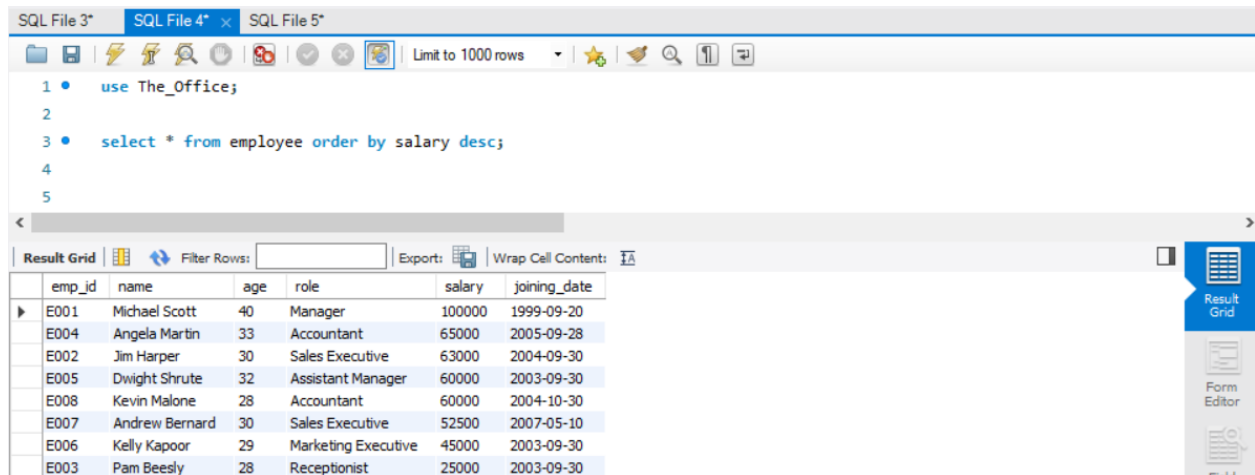
Result Grid

name	Michael_Bonus
Michael Scott	120000.0000

- **Show the details of all Employees according to their Salary sorted from higher to lower**

use The_Office;

*select * from employee order by salary desc;*



SQL File 3* SQL File 4* x SQL File 5*

Limit to 1000 rows

```

1 • use The_Office;
2
3 • select * from employee order by salary desc;
4
5

```

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

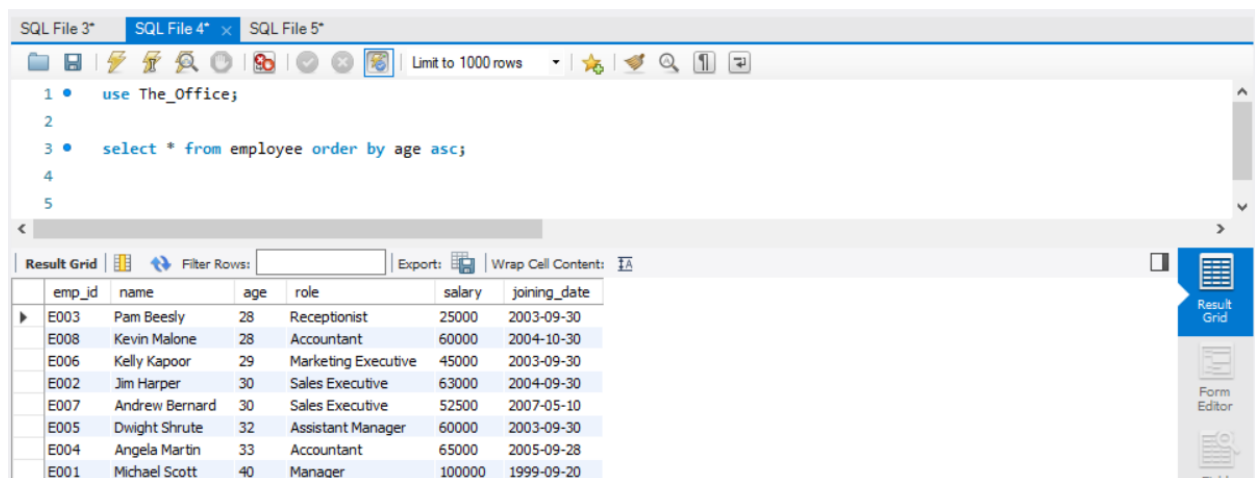
emp_id	name	age	role	salary	joining_date
E001	Michael Scott	40	Manager	100000	1999-09-20
E004	Angela Martin	33	Accountant	65000	2005-09-28
E002	Jim Harper	30	Sales Executive	63000	2004-09-30
E005	Dwight Shrute	32	Assistant Manager	60000	2003-09-30
E008	Kevin Malone	28	Accountant	60000	2004-10-30
E007	Andrew Bernard	30	Sales Executive	52500	2007-05-10
E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30
E003	Pam Beesly	28	Receptionist	25000	2003-09-30

Result Grid
Form Editor
Field

- **Show the details of all Employees according to their Age sorted from lower to higher**

use The_Office;

*select * from employee order by age asc;*



SQL File 3* SQL File 4* x SQL File 5*

Limit to 1000 rows

```

1 • use The_Office;
2
3 • select * from employee order by age asc;
4
5

```

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

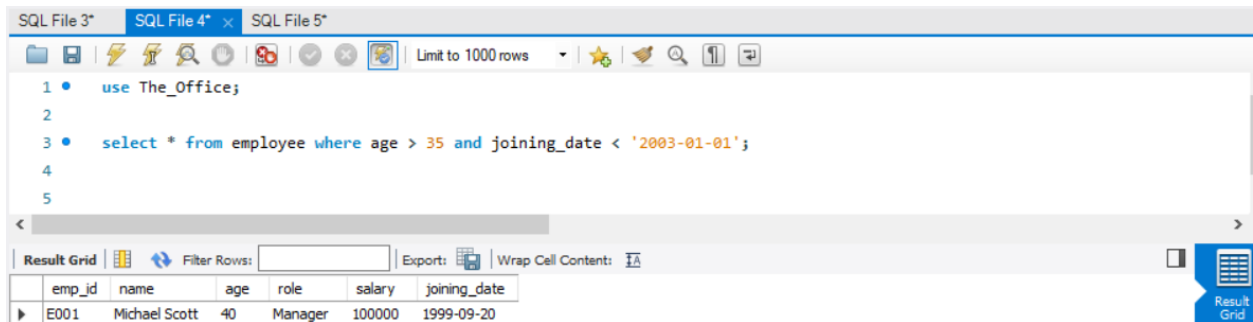
emp_id	name	age	role	salary	joining_date
E003	Pam Beesly	28	Receptionist	25000	2003-09-30
E008	Kevin Malone	28	Accountant	60000	2004-10-30
E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30
E002	Jim Harper	30	Sales Executive	63000	2004-09-30
E007	Andrew Bernard	30	Sales Executive	52500	2007-05-10
E005	Dwight Shrute	32	Assistant Manager	60000	2003-09-30
E004	Angela Martin	33	Accountant	65000	2005-09-28
E001	Michael Scott	40	Manager	100000	1999-09-20

Result Grid
Form Editor
Field

- **Show details of Employees whose age is more than 35 and who joined before 2003**

use The_Office;

*select * from employee where age > 35 and joining_date < '2003-01-01';*



SQL File 3* SQL File 4* x SQL File 5*

Limit to 1000 rows

```

1 • use The_Office;
2
3 • select * from employee where age > 35 and joining_date < '2003-01-01';
4
5

```

Result Grid

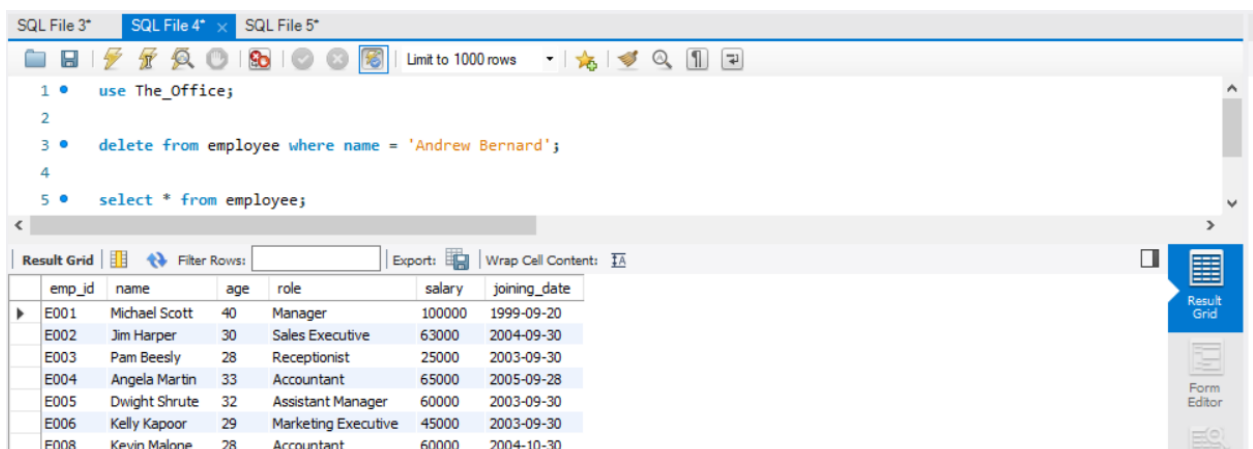
emp_id	name	age	role	salary	joining_date
E001	Michael Scott	40	Manager	100000	1999-09-20

- **Turns out Andrew Bernard has been lying about his Age, he is actually 80 years old. So he should retire. Delete him from the table**

use The_Office;

delete from employee where name = 'Andrew Bernard';

*select * from employee;*



SQL File 3* SQL File 4* x SQL File 5*

Limit to 1000 rows

```

1 • use The_Office;
2
3 • delete from employee where name = 'Andrew Bernard';
4
5 • select * from employee;

```

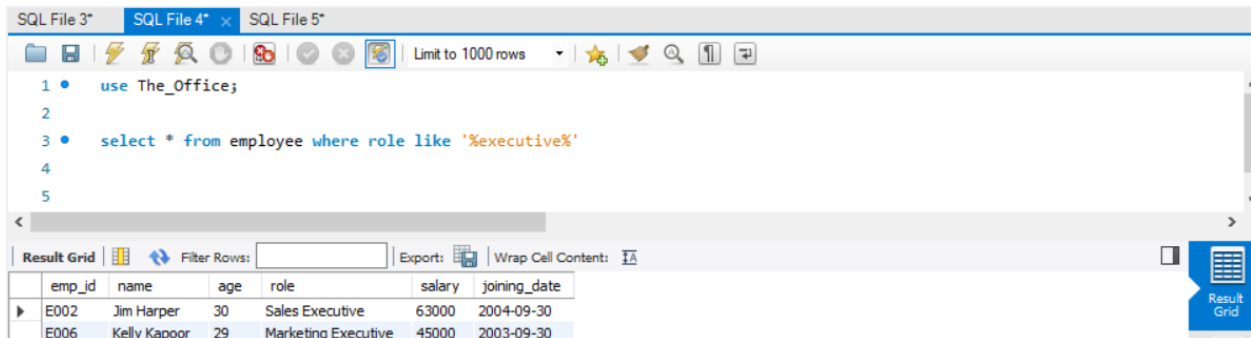
Result Grid

emp_id	name	age	role	salary	joining_date
E001	Michael Scott	40	Manager	100000	1999-09-20
E002	Jim Harper	30	Sales Executive	63000	2004-09-30
E003	Pam Beesly	28	Receptionist	25000	2003-09-30
E004	Angela Martin	33	Accountant	65000	2005-09-28
E005	Dwight Shrute	32	Assistant Manager	60000	2003-09-30
E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30
E008	Kevin Malone	28	Accountant	60000	2004-10-30

- **Find the details of Employees who have the word “executive” in their Role**

use The_Office;

*select * from employee where role like '%executive%';*



SQL File 3* SQL File 4* x SQL File 5*

Limit to 1000 rows

```

1 • use The_Office;
2
3 • select * from employee where role like '%executive%'
4
5

```

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

emp_id	name	age	role	salary	joining_date
E002	Jim Harper	30	Sales Executive	63000	2004-09-30
E006	Kelly Kapoor	29	Marketing Executive	45000	2003-09-30

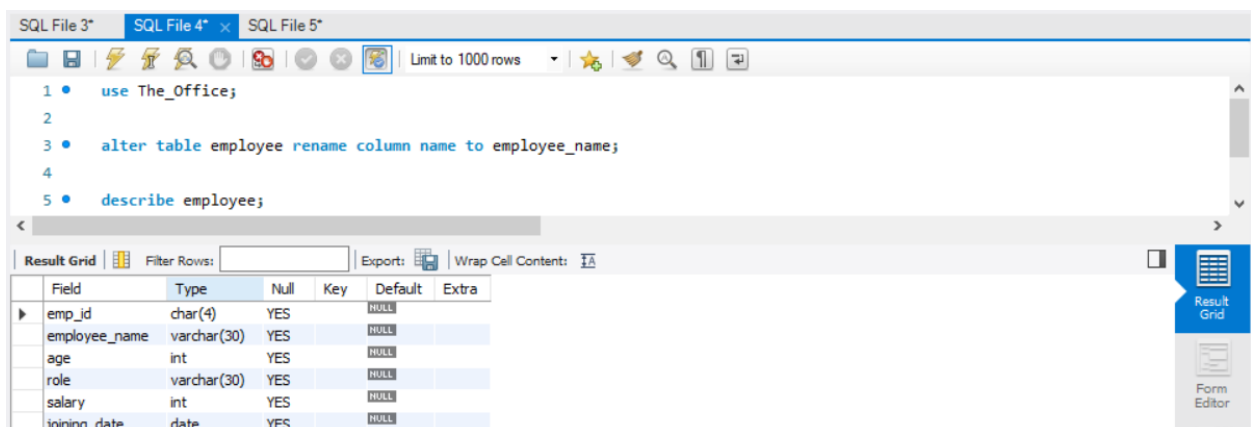
Result Grid

- **Change the attribute “Name” to “Employee_Name”**

use The_Office;

alter table employee rename column name to employee_name;

describe employee;



SQL File 3* SQL File 4* x SQL File 5*

Limit to 1000 rows

```

1 • use The_Office;
2
3 • alter table employee rename column name to employee_name;
4
5 • describe employee;

```

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

Field	Type	Null	Key	Default	Extra
emp_id	char(4)	YES		NULL	
employee_name	varchar(30)	YES		NULL	
age	int	YES		NULL	
role	varchar(30)	YES		NULL	
salary	int	YES		NULL	
joining_date	date	YES		NULL	

Result Grid

Form Editor

- **Add attribute “Bonus” to the employee table**

use The_Office;

alter table employee add column bonus int;

describe employee;

The screenshot shows a SQL IDE window with three tabs: SQL File 3*, SQL File 4*, and SQL File 5*. The SQL File 4* tab is active and contains the following SQL commands:

```
1 • use The_Office;
2
3 • alter table employee add column bonus int;
4
5 • describe employee;
```

Below the SQL editor, the 'Result Grid' is displayed, showing the output of the 'describe employee;' command. The grid has columns for Field, Type, Null, Key, Default, and Extra. The data is as follows:

Field	Type	Null	Key	Default	Extra
emp_id	char(4)	YES		NULL	
employee_name	varchar(30)	YES		NULL	
age	int	YES		NULL	
role	varchar(30)	YES		NULL	
salary	int	YES		NULL	
joining_date	date	YES		NULL	
bonus	int	YES		NULL	

- **Delete attribute “Bonus” from the table**

use The_Office;

alter table employee drop column bonus;

describe employee;

The screenshot shows a SQL IDE window with three tabs: SQL File 3*, SQL File 4*, and SQL File 5*. The SQL File 4* tab is active and contains the following SQL commands:

```
1 • use The_Office;
2
3 • alter table employee drop column bonus;
4
5 • describe employee;
```

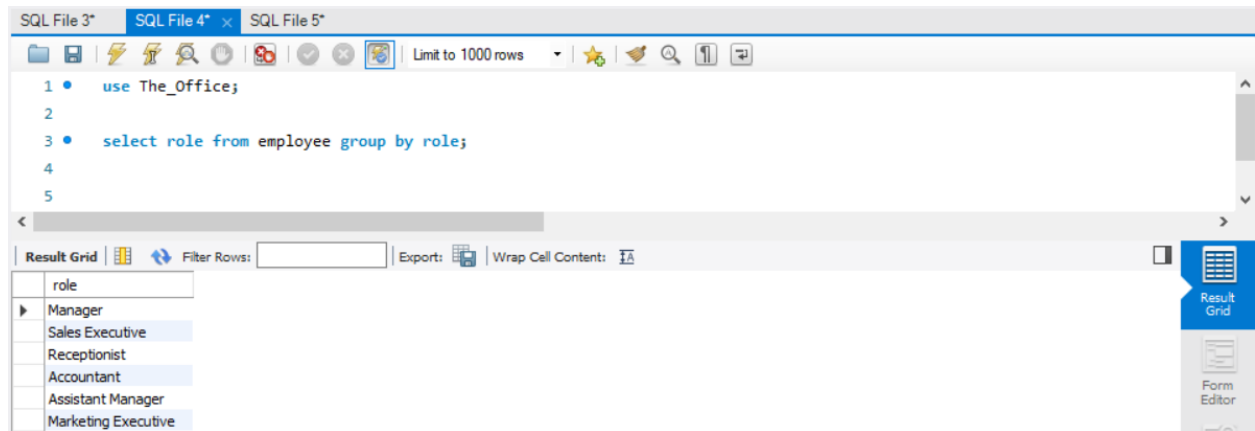
Below the SQL editor, the 'Result Grid' is displayed, showing the output of the 'describe employee;' command. The grid has columns for Field, Type, Null, Key, Default, and Extra. The data is as follows:

Field	Type	Null	Key	Default	Extra
emp_id	char(4)	YES		NULL	
employee_name	varchar(30)	YES		NULL	
age	int	YES		NULL	
role	varchar(30)	YES		NULL	
salary	int	YES		NULL	
joining_date	date	YES		NULL	

- **List the Names of different job Roles in the office. There should not be any repetition in your list**

use The_Office;

select role from employee group by role;



Thank You