

ASSIGNMENT

DBMS Lab

February 22, 2021

Arnav Dixit

191112034, CSE-1

Company Database Queries II



Computer Science Department
MANIT, Bhopal

Contents

1. Query 1	2
1.1. Source Code	2
1.2. Output	2
2. Query 2	3
2.1. Source Code	3
2.2. Output	3
3. Query 3	4
3.1. Source Code	4
3.2. Output	4
4. Query 4	5
4.1. Source Code	5
4.2. Output	5
5. Query 5	6
5.1. Source Code	6
5.2. Output	6
6. Query 6	7
6.1. Source Code	7
6.2. Output	7
7. Query 7	8
7.1. Source Code	8
7.2. Output	8
8. Query 8	9
8.1. Source Code	9
8.2. Output	9
9. Query 9	10
9.1. Source Code	10
9.2. Output	10
10. Query 10	11
10.1. Source Code	11
10.2. Output	11

1. Query 1

Retrieve the birth date and address of the employee(s) whose name is 'John B. Smith'.

1.1. Source Code

```
select Bdate from employee
where Fname = 'John' and Minit='B' and Lname='Smith';
```

1.2. Output

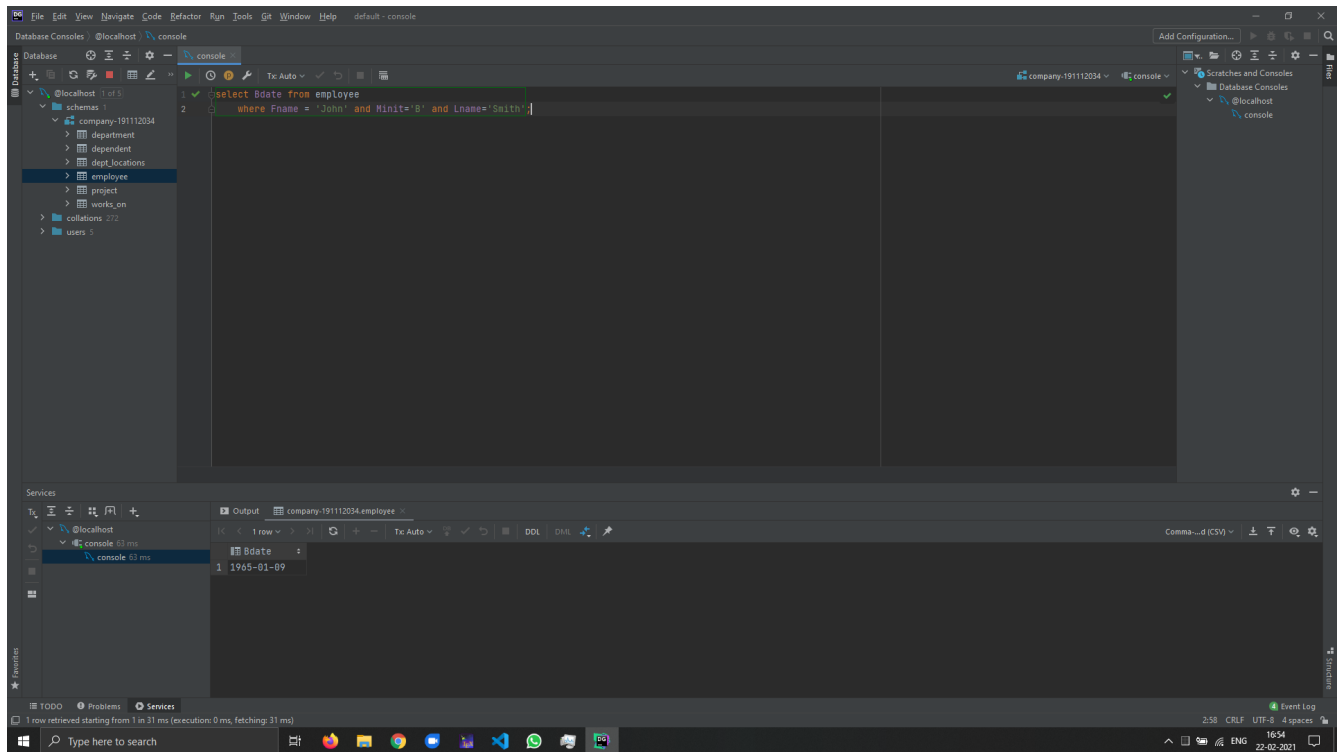


Figure 1: Query 1

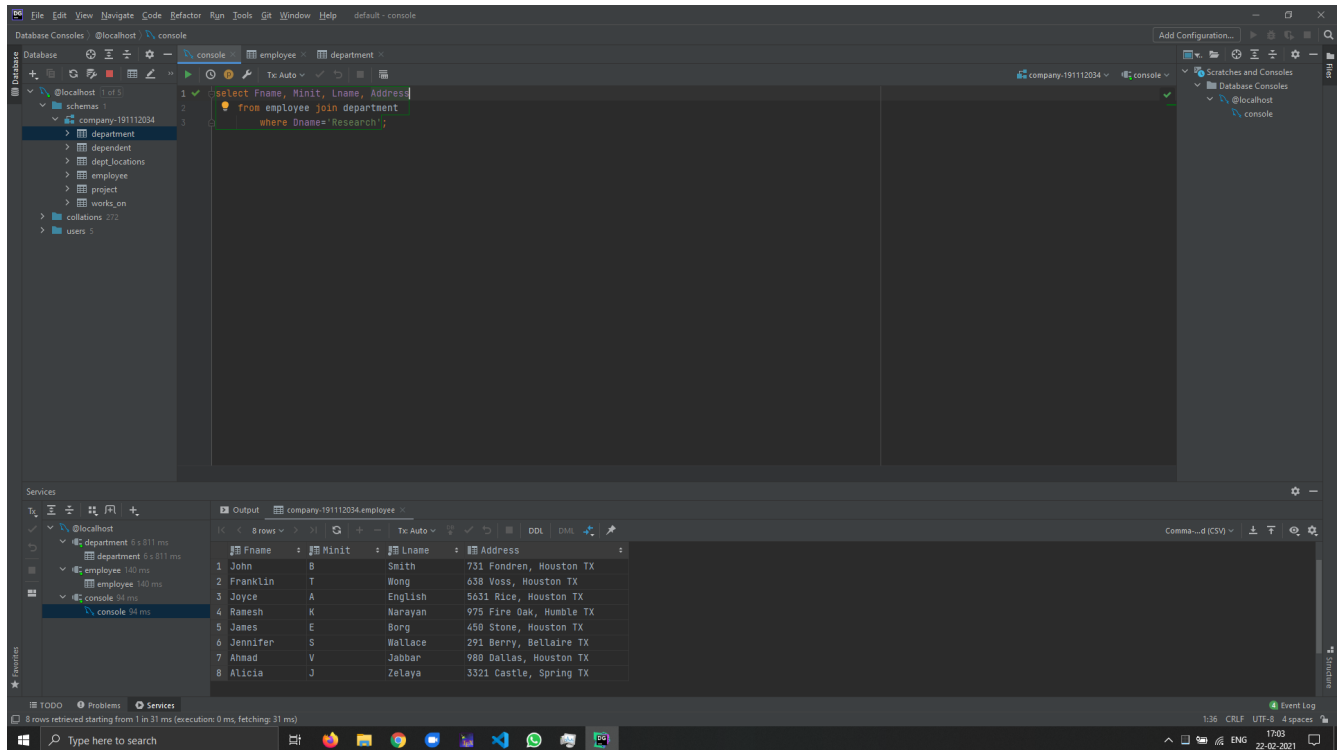
2. Query 2

Retrieve the name and address of all employees who work for the 'Research' department.

2.1. Source Code

```
select Fname, Minit, Lname, Address
  from employee join department
    where Dname='Research';
```

2.2. Output



The screenshot displays the SQL Server Enterprise Manager interface. The left pane shows the database structure, including the 'company-19112034' database and its tables. The central pane shows the SQL query being executed: `select Fname, Minit, Lname, Address from employee join department where Dname='Research';`. The right pane shows the output of the query, which is a table with 8 rows and 4 columns: Fname, Minit, Lname, and Address. The bottom status bar indicates that 8 rows were retrieved in 31 ms.

Fname	Minit	Lname	Address
John	B	Smith	731 Fondren, Houston TX
Franklin	T	Wong	638 Voss, Houston TX
Joyce	A	English	5631 Rice, Houston TX
Ramesh	K	Narayan	975 Fire Oak, Humble TX
James	E	Borg	450 Stone, Houston TX
Jennifer	S	Wallace	291 Berry, Bellaire TX
Ahmad	V	Jabbar	980 Dallas, Houston TX
Alicia	J	Zelaya	3321 Castle, Spring TX

Figure 2: Query 2

3. Query 3

For every project located in ‘Stafford’, list the project number, the controlling department number, and the department manager’s last name, address, and birth date.

3.1. Source Code

```
select Pnumber, Dnumber, Lname, Address, Bdate
  from project join department d on d.Dnumber = project.Dnum join employee e on e.Ssn = d.Mgr_ssn
 where Plocation='Stafford';
```

3.2. Output

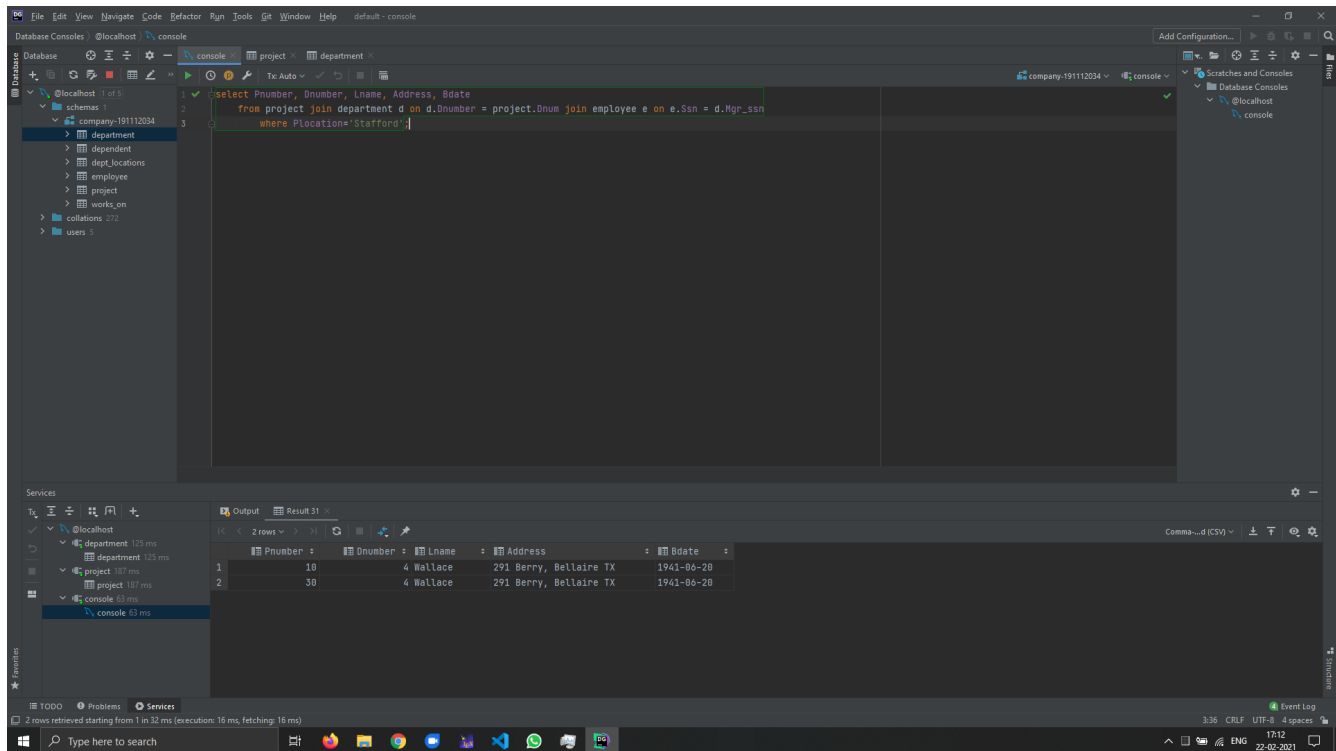


Figure 3: Query 3

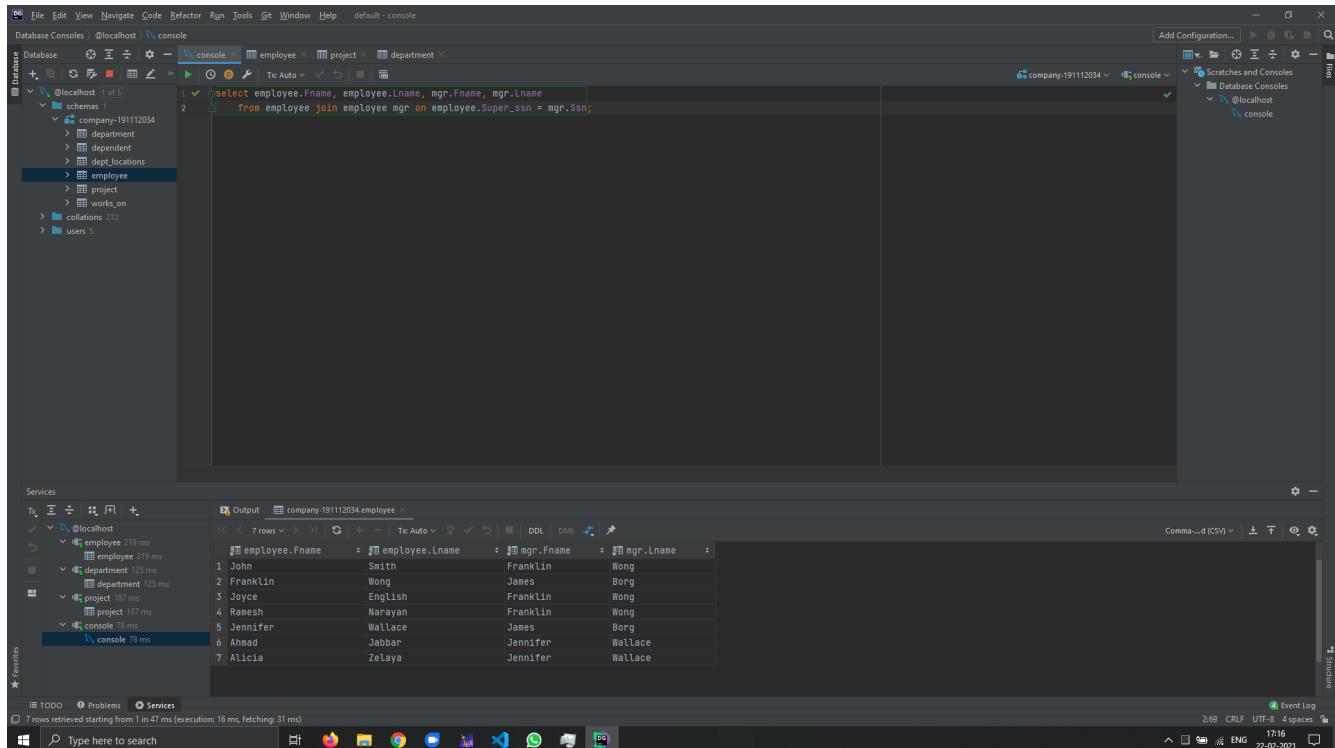
4. Query 4

For each employee, retrieve the employee's first and last name and the first and last name of his or her immediate supervisor.

4.1. Source Code

```
select employee.Fname, employee.Lname, mgr.Fname, mgr.Lname
  from employee join employee mgr on employee.Super_ssn = mgr.Ssn;
```

4.2. Output



The screenshot shows a database IDE with a query editor and an output window. The query is executed, and the output window displays the following data:

employee.Fname	employee.Lname	mgr.Fname	mgr.Lname
John	Smith	Franklin	Wong
Franklin	Wong	James	Borg
Joyce	English	Franklin	Wong
Ramesh	Narayan	Franklin	Wong
Jennifer	Wallace	James	Borg
Ahmad	Jabbar	Jennifer	Wallace
Alicia	Zelaya	Jennifer	Wallace

Figure 4: Query 4

5. Query 5

Retrieve the salary of every employee and all distinct salary values

5.1. Source Code

```
select distinct Salary from employee;
```

5.2. Output

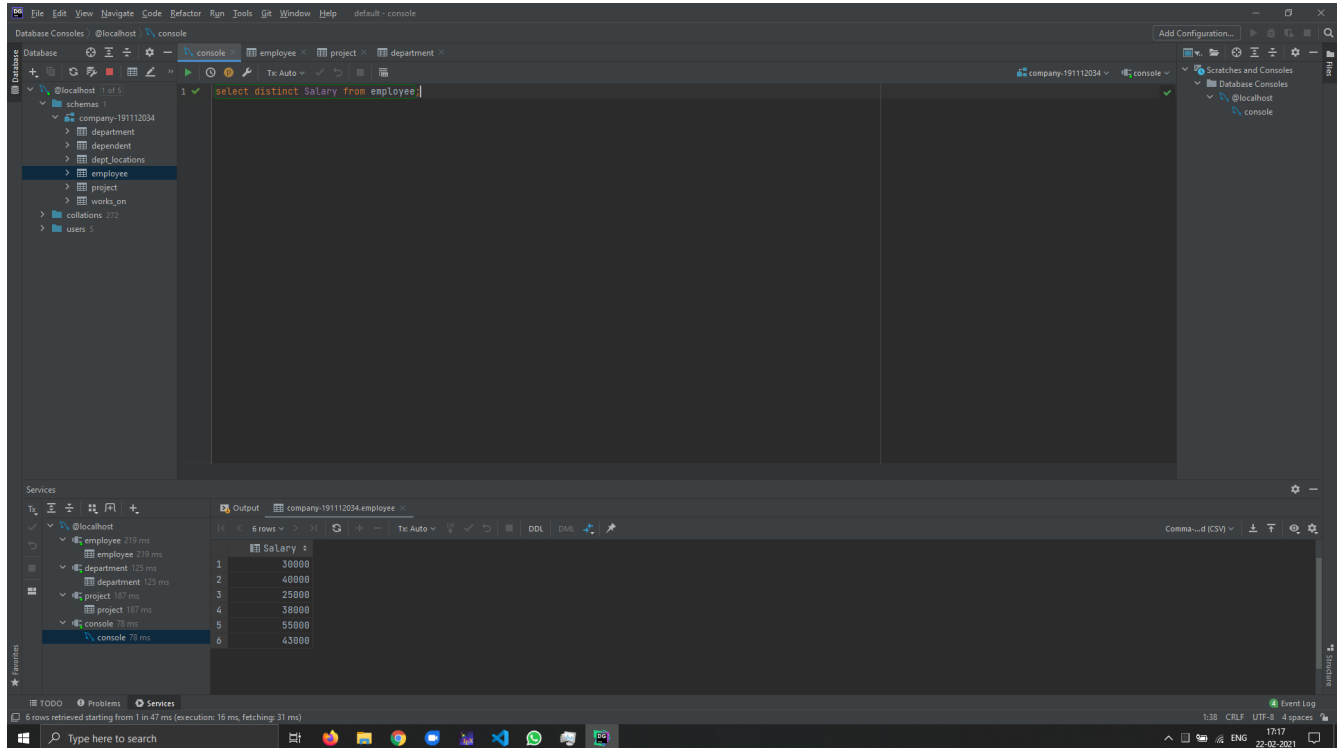


Figure 5: Query 5

6. Query 6

Make a list of all project numbers for projects that involve an employee whose last name is 'Smith', either as a worker or as a manager of the department that controls the project.

6.1. Source Code

```
select Pnumber from project join employee e on e.Dno = Dnum
where Lname = 'Smith';
```

6.2. Output

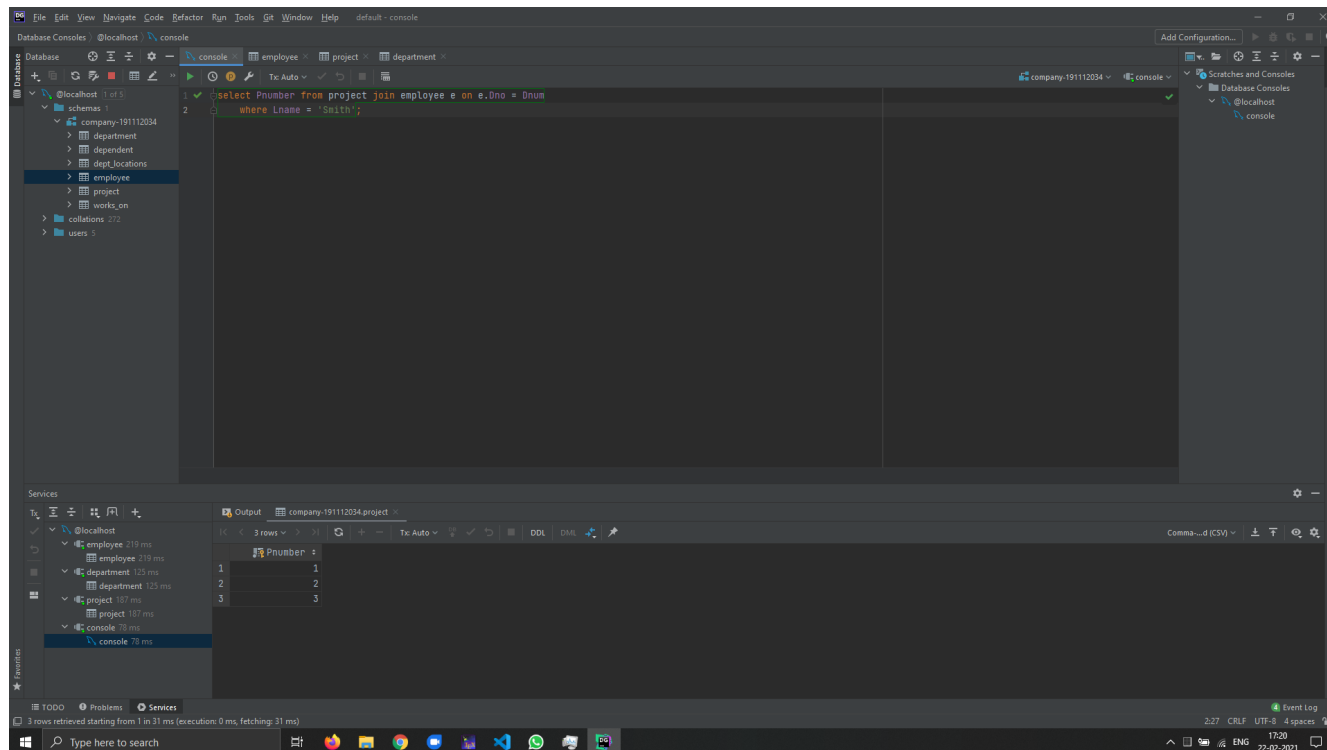


Figure 6: Query 6

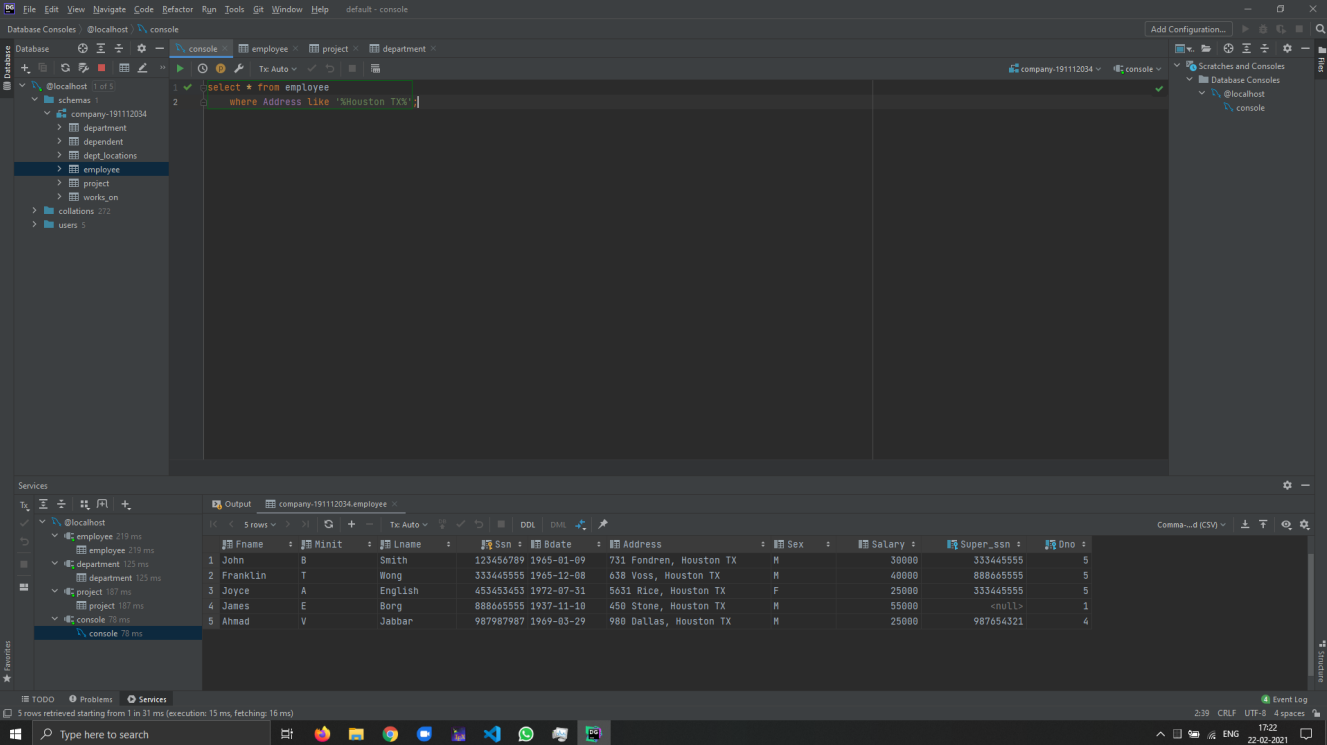
7. Query 7

Retrieve all employees whose address is in Houston, Texas.

7.1. Source Code

```
select * from employee
where Address like '%Houston TX%';
```

7.2. Output



The screenshot shows the SQL Server Enterprise Manager interface. The query editor contains the following SQL code:

```
select * from employee
where Address like '%Houston TX%';
```

The query has been executed, and the results are displayed in the Output window. The results show 5 rows of employee data:

FName	MInit	LName	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Ono
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston TX	M	39000	333445555	5
Franklin	T	Wong	333445555	1965-12-08	638 Voss, Houston TX	M	40000	888665555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston TX	F	25000	333445555	5
James	E	Borg	888665555	1937-11-10	450 Stone, Houston TX	M	55000	<null>	1
Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston TX	M	25000	987654321	4

Figure 7: Query 7

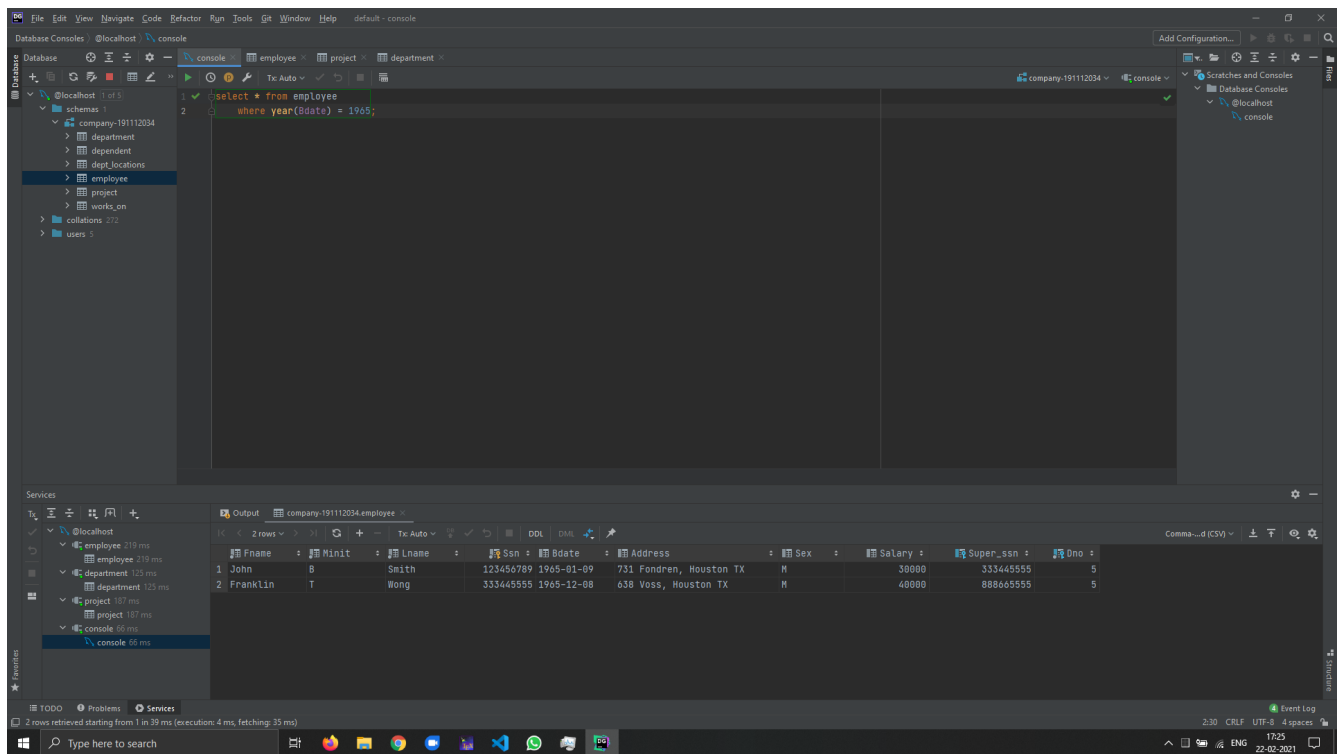
8. Query 8

Find all employees who were born in 1965s.

8.1. Source Code

```
select * from employee
  where year(Bdate) = 1965;
```

8.2. Output



The screenshot shows a database IDE with the following components:

- Database Explorer:** Shows a tree view of the database structure. The 'employee' table is selected under the 'company-19112034' database.
- Query Editor:** Contains the SQL query:

```
select * from employee
  where year(Bdate) = 1965;
```
- Output Window:** Displays the results of the query. It shows two rows of data:

	Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Ono
1	John	B	Smith	123456789	1965-01-09	731 Fondren, Houston TX	M	39000	333445555	5
2	Franklin	T	Wong	333445555	1965-12-08	638 Voss, Houston TX	M	40000	888665555	5

The bottom status bar indicates that 2 rows were retrieved starting from 1 in 39 ms (execution: 4 ms, fetching: 35 ms).

Figure 8: Query 8

9. Query 9

Show the resulting salaries if every employee working on the 'ProductX' project is given a 10% raise.

9.1. Source Code

```
select Fname, Salary*1.1 New_Salary from employee
  where Ssn in (select Essn from works_on
               where Pno = (select Pnumber from project
                           where Pname = 'ProductX'));
```

9.2. Output

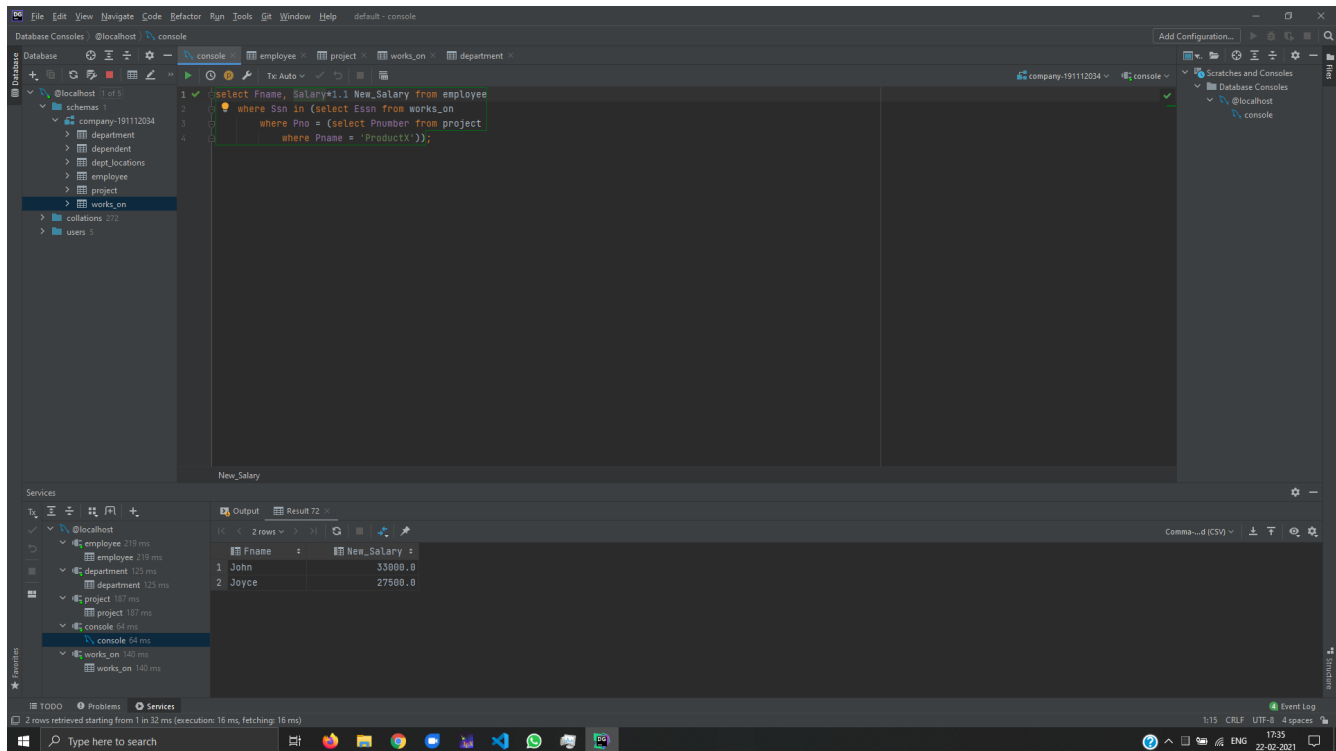


Figure 9: Query 9

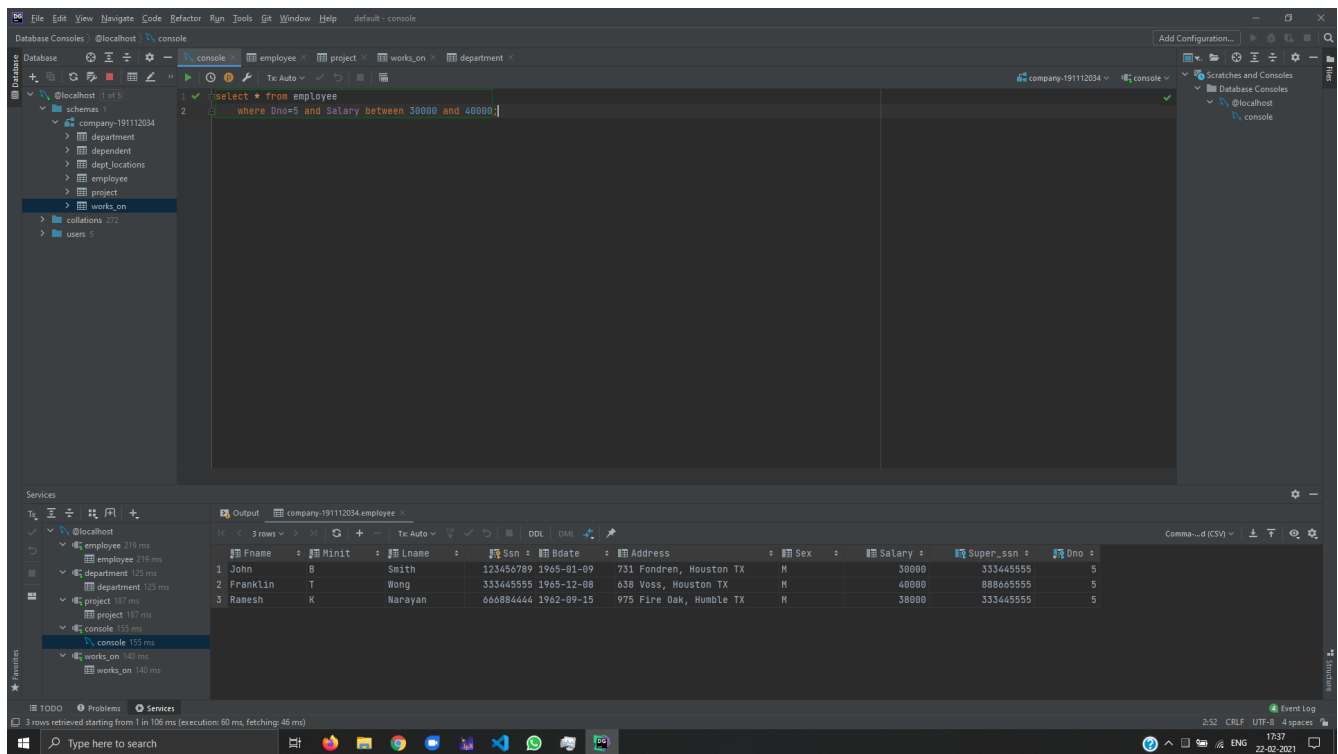
10. Query 10

Retrieve all employees in department 5 whose salary is between \$30,000 and \$40,000.

10.1. Source Code

```
select * from employee
  where Dno=5 and Salary between 30000 and 40000;
```

10.2. Output



The screenshot shows a database IDE with a query editor and an output window. The query is:

```
select * from employee
  where Dno=5 and Salary between 30000 and 40000;
```

The output window displays the results of the query, showing 3 rows of employee data. The columns are: Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, Super_ssn, and Dno.

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston TX	M	30000	333445555	5
Franklin	T	Wong	333445555	1965-12-08	638 Voss, Houston TX	M	40000	888665555	5
Ramesh	K	Narayan	660884444	1962-09-15	975 Fire Oak, Humble TX	M	38000	333445555	5

Figure 10: Query 10