

CIS530– Lab Assignment 3

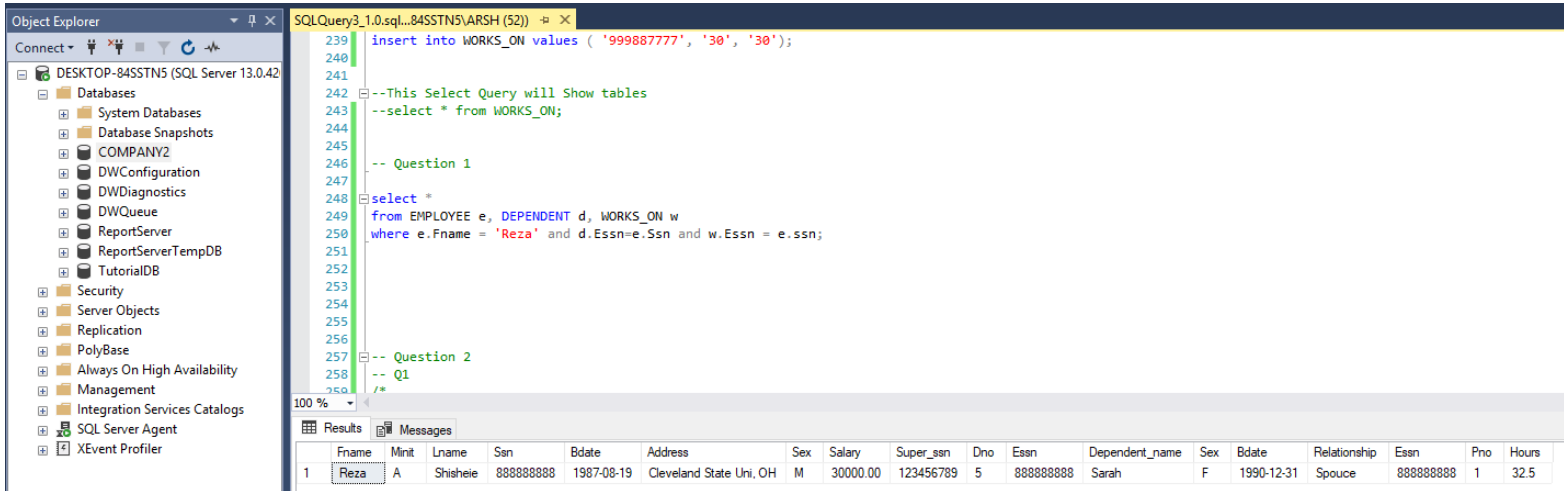
Name: Reza Shisheie

ID: 2708062

Object: Querying a Relational Database COMPANY database

1. Add yourself into the database and Retrieve the information:

Add yourself and the related info into Employee, Dependent, and Works_On.
Retrieve all the entries you just added with only 1 Select statement.

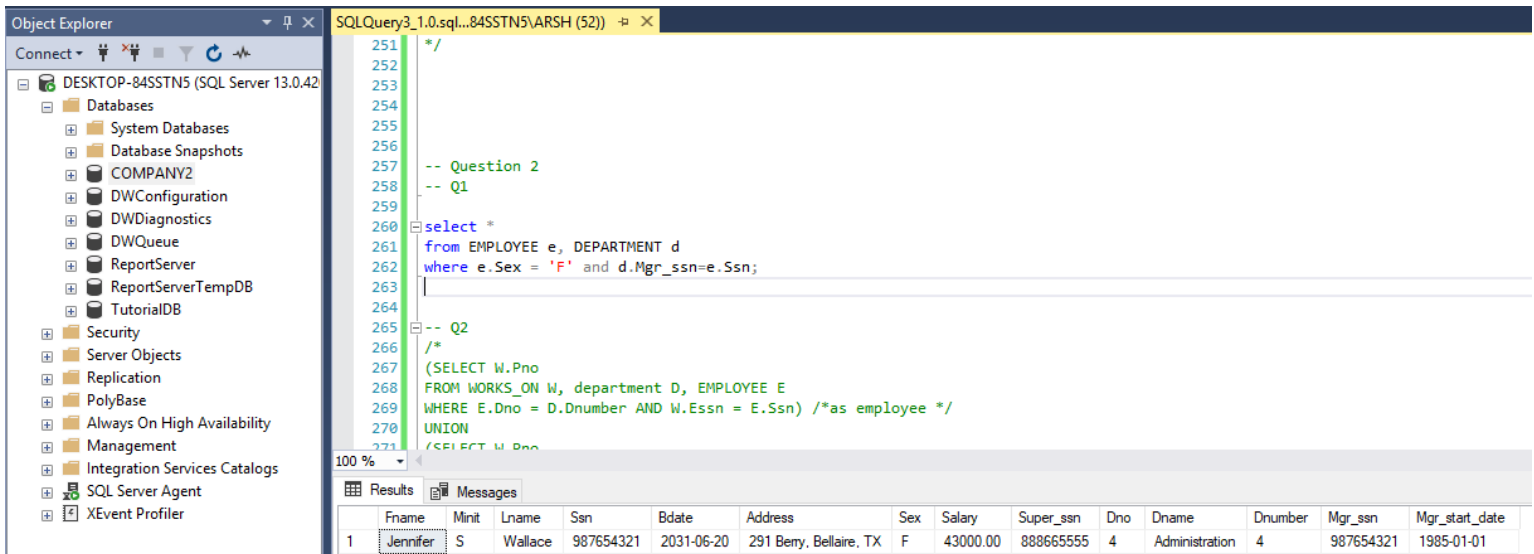


```
239 insert into WORKS_ON values ( '999887777', '30', '30');
240
241
242 --This Select Query will Show tables
243 --select * from WORKS_ON;
244
245
246 -- Question 1
247
248 select *
249 from EMPLOYEE e, DEPENDENT d, WORKS_ON w
250 where e.Fname = 'Reza' and d.Essn=e.Ssn and w.Essn = e.ssn;
251
252
253
254
255
256
257 -- Question 2
258 -- Q1
259 /*
```

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno	Essn	Dependent_name	Sex	Bdate	Relationship	Essn	Pno	Hours
Reza	A	Shisheie	888888888	1987-08-19	Cleveland State Uni, OH	M	30000.00	123456789	5	888888888	Sarah	F	1990-12-31	Spouse	888888888	1	32.5

2. Write SQL Select statements to retrieve data in the followings:

Q1: Retrieve the name and address of all the female managers.



```
251 /*
252
253
254
255
256
257 -- Question 2
258 -- Q1
259
260 select *
261 from EMPLOYEE e, DEPARTMENT d
262 where e.Sex = 'F' and d.Mgr_ssn=e.Ssn;
263
264
265 -- Q2
266 /*
267 (SELECT W.Pno
268 FROM WORKS_ON W, department D, EMPLOYEE E
269 WHERE E.Dno = D.Dnumber AND W.Essn = E.Ssn) /*as employee */
270 UNION
271 (SELECT W.Pno
```

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno	Dname	Dnumber	Mgr_ssn	Mgr_start_date
Jennifer	S	Wallace	987654321	2031-06-20	291 Berry, Bellaire, TX	F	43000.00	888665555	4	Administration	4	987654321	1985-01-01

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Q2: 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.

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the server hierarchy for 'DESKTOP-84SSTN5 (SQL Server 13.0.42)'. The 'Databases' folder is expanded, showing 'COMPANY2' and other system databases. The main window shows a SQL query in the 'SQLQuery3_1.0.sql...84SSTN5\ARSH (52)' file. The query is as follows:

```
-- Question 2
-- Q1
/*
select *
from EMPLOYEE e, DEPARTMENT d
where e.Sex = 'F' and d.Mgr_ssn=e.Ssn;
*/

-- Q2
(SELECT W.Pno
FROM WORKS_ON W, department D, EMPLOYEE E
WHERE E.Dno = D.Dnumber AND W.Essn = E.Ssn) /*as employee */
UNION
(SELECT W.Pno
FROM DEPARTMENT D, WORKS_ON W
WHERE w.essn = D.mgr_ssn) /*as manager */
```

Below the query editor, the 'Results' tab is active, showing a table with two columns: 'Pno' and 'Results'. The table contains six rows of data:

	Pno
1	1
2	2
3	3
4	10
5	20
6	30

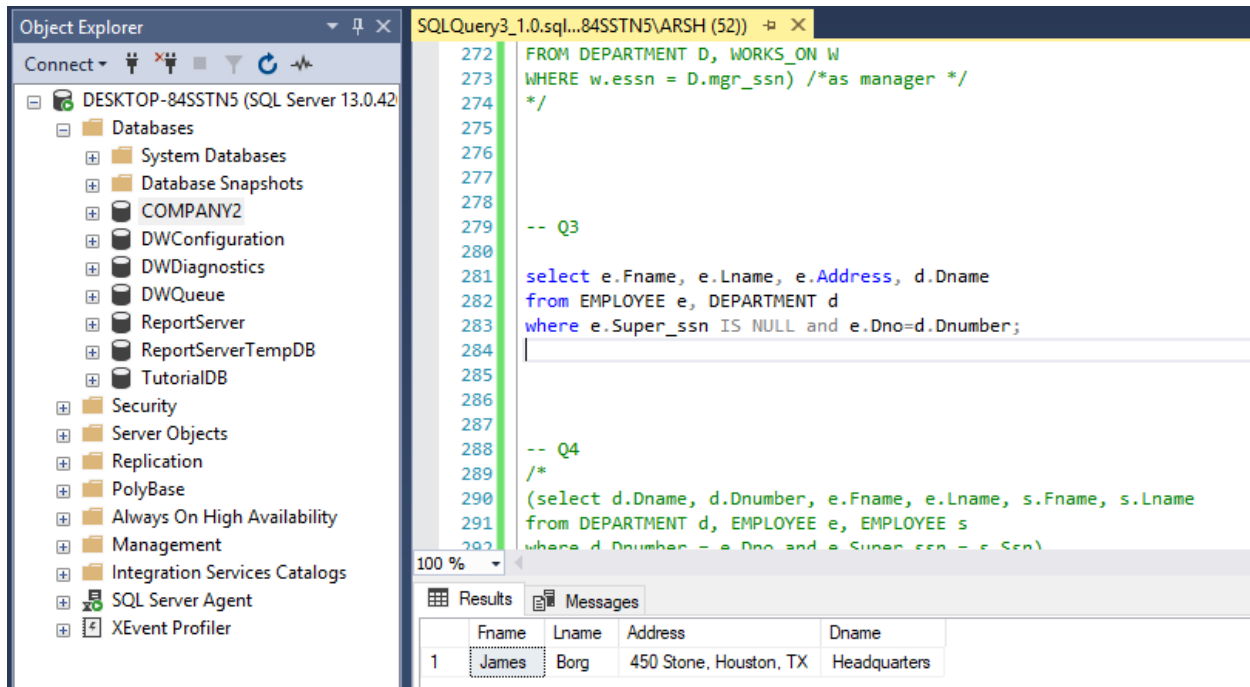
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Q3: Retrieve the name and address and his/her department name of the highest ranked employee who does not report to anybody in the company.



The screenshot displays the SQL Server Enterprise Manager interface. On the left, the 'Object Explorer' pane shows the server 'DESKTOP-84SSTN5 (SQL Server 13.0.42)' with various databases listed, including 'COMPANY2'. The main window shows a SQL query in the 'SQLQuery3_1.0.sql' file. The query is as follows:

```
272 FROM DEPARTMENT D, WORKS_ON W
273 WHERE w.essn = D.mgr_ssn) /*as manager */
274 */
275
276
277
278
279 -- Q3
280
281 select e.Fname, e.Lname, e.Address, d.Dname
282 from EMPLOYEE e, DEPARTMENT d
283 where e.Super_ssn IS NULL and e.Dno=d.Dnumber;
284
285
286
287
288 -- Q4
289 /*
290 (select d.Dname, d.Dnumber, e.Fname, e.Lname, s.Fname, s.Lname
291 from DEPARTMENT d, EMPLOYEE e, EMPLOYEE s
292 where d.Dnumber = e.Dno and e.Super_ssn = s.Ssn)
```

Below the query editor, the 'Results' pane shows a single row of data:

	Fname	Lname	Address	Dname
1	James	Borg	450 Stone, Houston, TX	Headquarters

Q4:

For each department, list all the employees who are working in the department with the employee's first and last name and first and last name of his or her immediate supervisor. List the result in the order of each department number and department name.

Extra points: Include all the employees who do not have any supervisor as well in the list.

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the server structure for 'DESKTOP-84SSTN5 (SQL Server 13.0.42)', including Databases, Security, and Server Objects. The 'COMPANY2' database is selected. The main window shows a SQL query in the 'SQLQuery3_1.0.sql...84SSTN5\ARSH (52)' file. The query is as follows:

```

281 select e.Fname, e.Lname, e.Address, d.Dname
282 from EMPLOYEE e, DEPARTMENT d
283 where e.Super_ssn IS NULL and e.Dno=d.Dnumber;
284 */
285
286
287
288 -- Q4
289
290 (select d.Dname, d.Dnumber, e.Fname, e.Lname, s.Fname, s.Lname
291 from DEPARTMENT d, EMPLOYEE e, EMPLOYEE s
292 where d.Dnumber = e.Dno and e.Super_ssn = s.Ssn)
293 UNION
294 (select d.Dname, d.Dnumber, e.Fname, e.Lname, null, null
295 from DEPARTMENT d, EMPLOYEE e
296 where d.Dnumber = e.Dno and e.Super_ssn is null )
297
298
299
300
301 -- Q5

```

The query results are displayed in a table with 7 columns: Dname, Dnumber, Fname, Lname, Fname, Lname. The results are ordered by department number and department name. The table contains 9 rows of data:

	Dname	Dnumber	Fname	Lname	Fname	Lname
1	Administration	4	Ahmad	Jabbar	Jennifer	Wallace
2	Administration	4	Alicia	Zelaya	Jennifer	Wallace
3	Administration	4	Jennifer	Wallace	James	Borg
4	Headquarters	1	James	Borg	NULL	NULL
5	Research	5	Franklin	Wong	James	Borg
6	Research	5	John	Smith	Jennifer	Wallace
7	Research	5	Joyce	English	Franklin	Wong
8	Research	5	Ramesh	Narayan	Franklin	Wong
9	Research	5	Reza	Shisheie	John	Smith

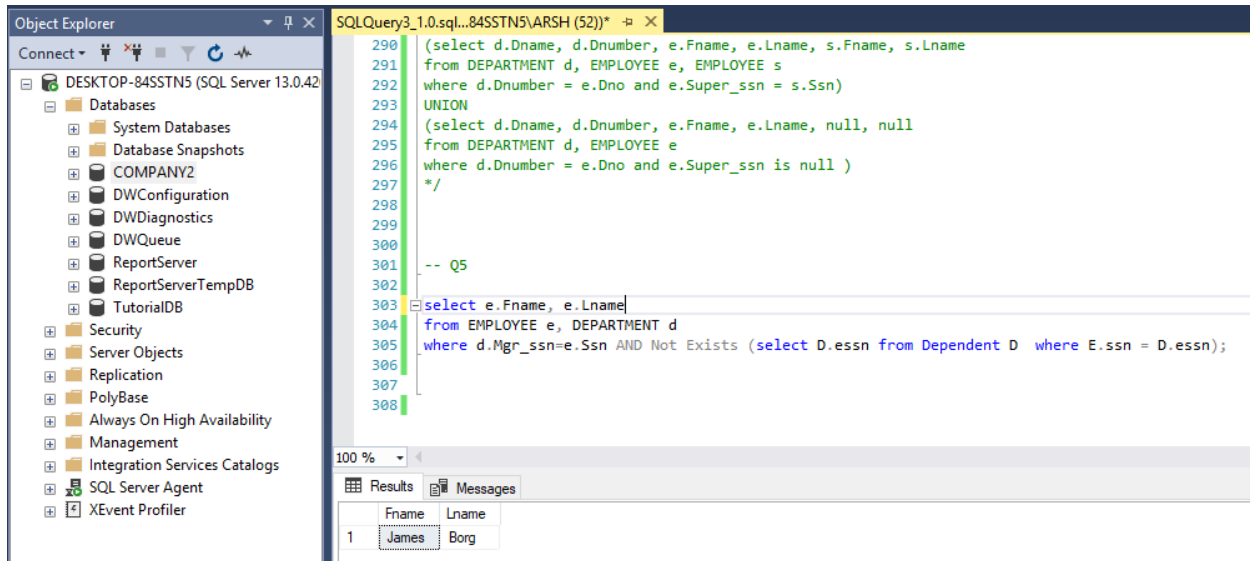
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Q5: List the name of managers who have no dependents.



The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the Object Explorer with the 'COMPANY2' database selected. The right pane shows a SQL query window with the following code:

```
290 (select d.Dname, d.Dnumber, e.Fname, e.Lname, s.Fname, s.Lname
291 from DEPARTMENT d, EMPLOYEE e, EMPLOYEE s
292 where d.Dnumber = e.Dno and e.Super_ssn = s.Ssn)
293 UNION
294 (select d.Dname, d.Dnumber, e.Fname, e.Lname, null, null
295 from DEPARTMENT d, EMPLOYEE e
296 where d.Dnumber = e.Dno and e.Super_ssn is null )
297 */
298
299
300
301 -- Q5
302
303 select e.Fname, e.Lname
304 from EMPLOYEE e, DEPARTMENT d
305 where d.Mgr_ssn=e.Ssn AND Not Exists (select D.essn from Dependent D where E.ssn = D.essn);
306
307
308
```

The query results are displayed in the bottom pane, showing a single row with the following data:

	Fname	Lname
1	James	Borg

Code

-- Question 1

```
select *
from EMPLOYEE e, DEPENDENT d, WORKS_ON w
where e.Fname = 'Reza' and d.Essn=e.Ssn and w.Essn = e.ssn;
```

-- Question 2

-- Q1

```
select *
from EMPLOYEE e, DEPARTMENT d
where e.Sex = 'F' and d.Mgr_ssn=e.Ssn;
```

-- Q2

```
(SELECT W.Pno
FROM WORKS_ON W, department D, EMPLOYEE E
WHERE E.Dno = D.Dnumber AND W.Essn = E.Ssn) /*as worker */
UNION
(SELECT W.Pno
FROM DEPARTMENT D, WORKS_ON W
WHERE w.essn = D.mgr_ssn) /*as manager */
```

-- Q3

```
select e.Fname, e.Lname, e.Address, d.Dname
from EMPLOYEE e, DEPARTMENT d
where e.Super_ssn IS NULL and e.Dno=d.Dnumber;
```

-- Q4

```
(select d.Dname, d.Dnumber, e.Fname, e.Lname, s.Fname, s.Lname
from DEPARTMENT d, EMPLOYEE e, EMPLOYEE s
where d.Dnumber = e.Dno and e.Super_ssn = s.Ssn)
UNION
(select d.Dname, d.Dnumber, e.Fname, e.Lname, null, null
from DEPARTMENT d, EMPLOYEE e
where d.Dnumber = e.Dno and e.Super_ssn is null )
```

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-- Q5

```
select e.Fname, e.Lname
from EMPLOYEE e, DEPARTMENT d
where d.Mgr_ssn=e.Ssn AND Not Exists (select D.essn from Dependent D where E.ssn =
D.essn);
```