

Vivek Patel

CSC 453 Section 810

Assignment 2

2/03/2019

1)

The screenshot displays a SQL query execution environment. At the top, the 'Query Builder' tab is active, showing the following SQL query:

```
select distinct fname, minit, lname from employee e, project p, works_on w where e.ssn = w.essn and p.pnumber = w.pno;
```

Below the query editor, the 'Query Result' tab is active, displaying the results of the query. The results are shown in a table with 7 rows and 3 columns: FNAME, MINIT, and LNAME. The data is as follows:

|   | FNAME    | MINIT | LNAME   |
|---|----------|-------|---------|
| 1 | Ahmad    | V     | Jabbar  |
| 2 | Alicia   | J     | Zelaya  |
| 3 | John     | B     | Smith   |
| 4 | Franklin | T     | Wong    |
| 5 | Joyce    | A     | English |
| 6 | James    | E     | Borg    |
| 7 | Jennifer | S     | Wallace |

At the bottom, the 'SQL History' tab is active, showing a list of executed queries. The first entry is the query shown above, executed on connection CSC452 at 10-FEB-19 0... with a duration of 0.034 seconds.

| SQL  | Connection | TimeStamp      | Type | Executed | Duration(se...) |
|--|------------|----------------|------|----------|-----------------|
| select distinct frame, minit, lname from employee e, project p, works_o... | CSC452     | 10-FEB-19 0... | SQL  | 2        | 0.034           |

2)

Worksheet Query Builder

```
select dname, dnumber, avg(salary) from department d, employee e where d.dnumber = e.dno group by dname, dnumber order by dnumber;
```

Query Result x

All Rows Fetched: 3 in 0.027 seconds

|   | DNAME          | DNUMBER | AVG(SALARY) |
|---|----------------|---------|-------------|
| 1 | Headquarters   | 1       | 55000       |
| 2 | Administration | 4       | 28000       |
| 3 | Research       | 5       | 32100       |

SQL History

| SQL   | Connection | TimeStamp      | Type | Executed | Duration(se...) |
|---|------------|----------------|------|----------|-----------------|
| select dname, dnumber, avg(salary) from department d, employee e w... | CSC452     | 10-FEB-19 0... | SQL  | 2        | 0.027           |

3)

Worksheet Query Builder

```
select lname from employee e, dependent d minus(select lname from employee e, dependent d where e.ssn = d.essn);
```

Query Result x

All Rows Fetched: 5 in 0.027 seconds

| LNAME     |
|-----------|
| 1 Borg    |
| 2 Jabbar  |
| 3 Jones   |
| 4 Narayan |
| 5 Zelaya  |

SQL History

| SQL   | Connection | TimeStamp      | Type | Executed | Duration(se...) |
|---|------------|----------------|------|----------|-----------------|
| select lname from employee e, dependent d minus(select lname from em... | CSC452     | 10-FEB-19 0... | SQL  | 2        | 0.027           |

4)

Worksheet    Query Builder

```
select fname, minit, lname from employee e where dno = (select dno from employee where salary = (select min(salary) from employee));
```

Query Result x

All Rows Fetched: 3 in 0.02 seconds

|   | FNAME    | MINIT | LNAME   |
|---|----------|-------|---------|
| 1 | Jennifer | S     | Wallace |
| 2 | Alicia   | J     | Zelaya  |
| 3 | Ahmad    | V     | Jabbar  |

SQL History

| SQL  | Connection | TimeStamp      | Type | Executed | Duration(se...) |
|--|------------|----------------|------|----------|-----------------|
| select fname, minit, lname from employee e where dno = (select dno fr... | CSC452     | 10-FEB-19 0... | SQL  | 2        | 0.02            |

- 5) This one is very much wrong, but I had so many different times I had the correct count for each, but it had a set for each department. Eventually I got tired and this is my final answer.

Worksheet    Query Builder

```
1 select d.dname, count(Employees), count(Dependents)
2   from department d, (select e.ssn as Employees from department d, employee e where d.dnumber = e.dno),
3   (select dn.dependent_name as Dependents from department d, employee e, dependent dn where d.dnumber = e.dno and e.ssn = dn.essn)
4  group by d.dname;
```

Script Output x    Query Result x

All Rows Fetched: 3 in 0.028 seconds

|   | DNAME          | COUNT(EMPLOYEES) | COUNT(DEPENDENTS) |
|---|----------------|------------------|-------------------|
| 1 | Research       | 81               | 81                |
| 2 | Administration | 81               | 81                |
| 3 | Headquarters   | 81               | 81                |

SQL History

| SQL  | Connection | TimeStamp      | Type | Executed | Duration(se...) |
|--|------------|----------------|------|----------|-----------------|
| select d.dname, count(Employees), count(Dependents) from depart... | CSC452     | 10-FEB-19 0... | SQL  | 2        | 0.02            |

6)

Worksheet    Query Builder

```
1 select fname, minit, lname from employee e where salary >= (select max(salary) from employee) - 20000;
```

Script Output x    Query Result x

SQL | All Rows Fetched: 4 in 0.023 seconds

|   | FNAME    | MINIT | LNAME   |
|---|----------|-------|---------|
| 1 | James    | E     | Borg    |
| 2 | Jennifer | S     | Wallace |
| 3 | Franklin | T     | Wong    |
| 4 | Ramesh   | K     | Narayan |

SQL History

| SQL  | Connection | TimeStamp      | Type | Executed | Duration(se...) |
|--|------------|----------------|------|----------|-----------------|
| select fname, minit, lname from employee e where salary >= (select ma... | CSC452     | 10-FEB-19 0... | SQL  | 2        | 0.023           |