Project1 Part2

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Question 2

Find full name and salary of all female employees sorted by their salary.

SELECT Fname, Minit, Lname, Salary
FROM EMPLOYEE
WHERE Sex="F"
ORDER BY Salary;

```
mysql> source ~/Developer/cse4701-project1/part2/question2.sql
+----------+-------+---------+--------+
| Fname    | Minit | Lname   | Salary |
+----------+-------+---------+--------+
| Joyce    | A     | English |  25000 |
| Alicia   | J     | Zelaya  |  25000 |
| Jennifer | S     | Wallace |  43000 |
+----------+-------+---------+--------+
3 rows in set (0.01 sec)
```

Question 3

Find full name and birth-date of employees who work in "Research" department.

SELECT Fname, Minit, Lname, Bdate
FROM EMPLOYEE, DEPARTMENT
WHERE Dno=Dnumber **AND** Dname="Research";

```
mysql> source ~/Developer/cse4701-project1/part2/question3.sql
+----------+-------+---------+------------+
| Fname    | Minit | Lname   | Bdate      |
+----------+-------+---------+------------+
| John     | B     | Smith   | 1965-1-09  |
| Franklin | T     | Wong    | 1955-12-08 |
| Joyce    | A     | English | 1972-07-31 |
| Ramesh   | K     | Narayan | 1962-09-15 |
+----------+-------+---------+------------+
4 rows in set (0.00 sec)
```

Question 4

For every male employee, find their full name, their supervisor's full name, their department name, and their department location.

SELECT EMPLOYEE.Fname, EMPLOYEE.Minit, EMPLOYEE.Lname, EMPLOYEE2.Fname **AS**
    Super_Fname, EMPLOYEE2.Minit **AS** Super_Minit, EMPLOYEE2.Lname **AS**
    Super_Lname, Dname, Dlocation
FROM EMPLOYEE, EMPLOYEE **AS** EMPLOYEE2, DEPARTMENT, DEPT_LOCATIONS
WHERE EMPLOYEE.Super_ssn=EMPLOYEE2.Ssn **AND** EMPLOYEE.DNO=DEPARTMENT.Dnumber **AND**
    DEPARTMENT.Dnumber=DEPT_LOCATIONS.Dnumber **AND** EMPLOYEE.Sex="M";

```
mysql> source ~/Developer/cse4701-project1/part2/question4.sql
+----------+-------+---------+-------------+-------------+-------------+----------------+-----------+
| Fname    | Minit | Lname   | Super_Fname | Super_Minit | Super_Lname | Dname          | Dlocation |
+----------+-------+---------+-------------+-------------+-------------+----------------+-----------+
| John     | B     | Smith   | Franklin    | T           | Wong        | Research       | Bellaire  |
| John     | B     | Smith   | Franklin    | T           | Wong        | Research       | Houston   |
| John     | B     | Smith   | Franklin    | T           | Wong        | Research       | Sugarland |
| Franklin | T     | Wong    | James       | E           | Borg        | Research       | Bellaire  |
| Franklin | T     | Wong    | James       | E           | Borg        | Research       | Houston   |
| Franklin | T     | Wong    | James       | E           | Borg        | Research       | Sugarland |
| Ramesh   | K     | Narayan | Franklin    | T           | Wong        | Research       | Bellaire  |
| Ramesh   | K     | Narayan | Franklin    | T           | Wong        | Research       | Houston   |
| Ramesh   | K     | Narayan | Franklin    | T           | Wong        | Research       | Sugarland |
| Ahmad    | V     | Jabbar  | Jennifer    | S           | Wallace     | Administration | Stafford  |
+----------+-------+---------+-------------+-------------+-------------+----------------+-----------+
10 rows in set (0.00 sec)
```

Question 5

Find full name and salary of employees who work under "James E Borg". Show the list sorted by salary in descending order.

SELECT Fname, Minit, Lname, Salary
FROM EMPLOYEE, (**SELECT** Ssn **AS** James_ssn **FROM** EMPLOYEE **WHERE** Fname="James" **AND**
    Minit="E" **AND** Lname="Borg") **AS** JAMES_SSN
WHERE Super_ssn=James_ssn
ORDER BY Salary **DESC**;

```
mysql> source ~/Developer/cse4701-project1/part2/question5.sql
+----------+-------+---------+--------+
| Fname    | Minit | Lname   | Salary |
+----------+-------+---------+--------+
| Jennifer | S     | Wallace | 43000  |
| Franklin | T     | Wong    | 40000  |
+----------+-------+---------+--------+
2 rows in set (0.00 sec)
```

Question 6

Find department name, manager's full name, and average salary of employees in each department.

SELECT Dname, Fname, Minit, Lname, Avg_salary
FROM DEPARTMENT, EMPLOYEE, (**SELECT** Dno, **AVG**(Salary) **AS** Avg_salary **FROM**
    EMPLOYEE **GROUP BY** Dno) **AS** AVG_SALARY
WHERE Ssn=Mgr_ssn **AND** Dnumber=AVG_SALARY.Dno;

```
mysql> source ~/Developer/cse4701-project1/part2/question6.sql
+----------------+----------+-------+---------+------------+
| Dname          | Fname    | Minit | Lname   | Avg_salary |
+----------------+----------+-------+---------+------------+
| Headquarters   | James    | E     | Borg    | 55000.0000 |
| Administration | Jennifer | S     | Wallace | 31000.0000 |
| Research       | Franklin | T     | Wong    | 33250.0000 |
+----------------+----------+-------+---------+------------+
3 rows in set (0.00 sec)
```

Question 7

Find names and total number of allocated hours for each project. Show the list sorted by total number of
hours in descending order.

SELECT Pname, **SUM**(Hours) **AS** Total_hours
FROM PROJECT, WORKS_ON
WHERE Pnumber=Pno
GROUP BY Pname
ORDER BY Total_hours **DESC**;

```
mysql> source ~/Developer/cse4701-project1/part2/question7.sql
+----------------+-------------+
| Pname          | Total_hours |
+----------------+-------------+
| Computerization |         55 |
| Newbenefits    |          55 |
| ProductX       |        52.5 |
| ProductZ       |          50 |
| ProductY       |        37.5 |
| Reorganization |          25 |
+----------------+-------------+
6 rows in set (0.01 sec)
```

Question 8

Find project name of projects that have less than 40 allocated hours.

SELECT Pname **FROM**
 (**SELECT** Pname, **SUM**(Hours) **AS** Total_hours
FROM PROJECT, WORKS_ON
WHERE Pnumber=Pno
GROUP BY Pname) **AS** TOTAL_HOURS
WHERE Total_hours <40;

```
mysql> source ~/Developer/cse4701-project1/part2/question8.sql
+----------------+
| Pname          |
+----------------+
| ProductY       |
| Reorganization |
+----------------+
2 rows in set (0.00 sec)
```

Question 9

Find full name and SSN of employees whose department is in "Houston" but do not work in any project that is in "Houston".

SELECT Fname, Minit, Lname, Ssn
FROM EMPLOYEE, DEPARTMENT, DEPT_LOCATIONS
WHERE EMPLOYEE.Dno=DEPARTMENT.Dnumber
AND DEPT_LOCATIONS.Dnumber=DEPARTMENT.Dnumber **AND** Dlocation="Houston" **AND**
    EMPLOYEE.SSN **NOT IN**
(
    SELECT Essn
    FROM PROJECT, WORKS_ON
    WHERE Pno=Pnumber **AND** Plocation="Houston"
);

```
mysql> source ~/Developer/cse4701-project1/part2/question9.sql
+-------+-------+---------+-----------+
| Fname | Minit | Lname   | Ssn       |
+-------+-------+---------+-----------+
| John  | B     | Smith   | 123456789 |
| Joyce | A     | English | 453453453 |
+-------+-------+---------+-----------+
2 rows in set (0.00 sec)
```

Question 10

Find names of departments that have multiple (more than 1) employees with dependents.

SELECT Dname **FROM**
(**SELECT** Dname, **COUNT**(Essn) **AS** Num_Dependents
FROM EMPLOYEE, DEPENDENT, DEPARTMENT
WHERE EMPLOYEE.Dno=DEPARTMENT.Dnumber **AND** EMPLOYEE.Ssn=DEPENDENT.Essn
GROUP BY Dname) **AS** TEMP
WHERE Num_Dependents>1;

```
mysql> source ~/Developer/cse4701-project1/part2/question10.sql
+----------+
| Dname    |
+----------+
| Research |
+----------+
1 row in set (0.00 sec)
```

Question 11

Find full name of employees who have spouse but no children as dependents.

SELECT Fname, Minit, Lname
FROM
(
    SELECT Fname, Minit, Lname
    FROM EMPLOYEE, DEPENDENT
    WHERE EMPLOYEE.Ssn=DEPENDENT.Essn **AND** Relationship="Spouse"
) TEMP1

LEFT OUTER JOIN
(
  SELECT DISTINCT Fname **AS** Fname2 , Minit **AS** Minit2 , Lname **AS** Lname2
  FROM EMPLOYEE, DEPENDENT
  WHERE EMPLOYEE . Ssn=DEPENDENT . Essn **AND** (Relationship="Son" **OR** Relationship=
    "Daughter")
) TEMP2
ON TEMP1 . Fname=TEMP2 . Fname2 **AND** TEMP1 . Minit=TEMP2 . Minit2 **AND** TEMP1 . Lname=TEMP2
  . Lname2
WHERE TEMP2 . Fname2 IS **NULL AND** TEMP2 . Minit2 IS **NULL AND** TEMP2 . Lname2 IS **NULL**;

```
mysql> source ~/Developer/cse4701-project1/part2/question11.sql
+----------+-------+---------+
| Fname    | Minit | Lname   |
+----------+-------+---------+
| Jennifer | S     | Wallace |
+----------+-------+---------+
1 row in set (0.00 sec)
```