Company Database Schema

1. Display the **Department id**, **Department Name** and its **manager id** and the **Manager name.**

➔ **SELECT** d.Dnum, d.Dname , d.MGRSSN ,
CONCAT(e.Fname,' ',e.Lname) AS 'Full Name'
FROM departments d , employee e
WHERE d.MGRSSN = e.SSN;

2. Display the **project name** and **departments' name** that **control them**

➔ **SELECT** p.Pname , d.Dname
FROM project p, departments d
WHERE p.Dnum = d.Dnum;

3. Display the **dependent name** for all the dependence and the **name of the employee** they depend on him/her.

➔ **SELECT** d.dependent_name, CONCAT(e.Fname,' ',e.Lname) AS 'Full Name'
FROM dependent d, employee e
WHERE d.ESSN = e.SSN;

4. Retrieve the employee **first name, project name** of all employees work in **department 10** who **works more than or equal 10 hours**

ordered by **first name**.

➔
```
SELECT e.Fname, p.Pname
FROM employee e, project p, works_for w
WHERE e.Dno = 10
AND e.SSN = w.ESSn
AND w.Pno = p.Pnumber
AND w.Hours >= 10
ORDER BY e.Fname;
```

5. List the **last name** of all **managers** who have **no dependents.**

➔
```
SELECT mgr.Lname
FROM employee mgr, departments dep
WHERE dep.MGRSSN = mgr.SSN
AND mgr.SSN NOT IN (SELECT ESSN FROM
dependent);
```

6. Display the **department name** which has the **smallest employee ID over all employees' ID.**

➔
```
SELECT d.Dname
FROM departments d, employee e
WHERE d.Dnum = e.Dno
AND e.SSN = (SELECT MIN(SSN) FROM employee);
```

7. For each department >>> display **department name and number of its employees**

-- if its **average salary is less than 1200**

➔
```
SELECT d.Dname, COUNT(e.SSN) AS Ecount
FROM departments d, employee e
WHERE d.Dnum = e.Dno
GROUP BY d.Dname
HAVING AVG(e.Salary) < 1200;
```

8. Find the fname of the employees who directly supervised with `Mariam Mahmoud`.

➔
```
SELECT e.Fname
FROM employee e
WHERE e.Superssn = (
   SELECT SSN
    FROM employee
    WHERE Fname = 'Mariam'
    AND Lname = 'Mahmoud'
);
```

9. Retrieve a list of employees (fname) and the projects (project name) they are working on ordered by department no, last name, first name.

➔
```
SELECT e.Fname, p.Pname
FROM employee e, project p , works_for w
WHERE p.Pnumber = w.Pno
```

```
    AND e.SSN = w.ESSn
    ORDER BY e.Dno, e.Lname, e.Fname;
```

10. Find the project number, the controlling department name, the department manager last name, address and birthdate. For each project located in 'Cairo' City

➔
```
SELECT p.Pnumber, d.Dname, mgr.Lname,
mgr.Address, mgr.Bdate
FROM project p, departments d, employee mgr
WHERE p.Dnum = d.Dnum
AND d.MGRSSN = mgr.SSN
AND p.City = 'Cairo';
```

11. For each department, retrieve the department name and the maximum, minimum and average salary of its employees.

➔
```
SELECT d.Dname, MIN(e.Salary) AS Min_Salary,
MAX(e.Salary) AS Max_Salary, AVG(e.Salary) AS
Avg_Salary
FROM departments d, employee e
WHERE d.Dnum = e.Dno
GROUP BY d.Dname
```