

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**.

7. For each department >>> display **department name and number of its employees**
-- if its **average salary is less than 1200**

8. Find the fname of the employees who directly supervised with 'Sarah Mohamed'.

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

Database Fundamentals
SQL

AND p.City = 'Cairo';

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