

Company Database Schema

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

```
select Dnum, Dname, MGRSSN, concat(Fname, ' ', Lname) as "Full Name"
from departments dep, employee e
where dep.MGRSSN = e.SSN
```

2. Display the **departments' name** and the **project name** of the **under their control**.

```
select Dname, Pname
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 dependent_name, concat(Fname, ' ', Lname) as "Full Name"
from dependent d, employee e
where d.ESSn = e.SSN
```

4. Retrieve the **fname, pname** of all employees work in **department 10** who **works more than or equal 10 hours** per week on '**AL Rabwah**' project.

```
select e.Fname, p.Pname
from employee e inner join works_for w
on e.SSN = w.ESSn
inner join project p
where w.Pno = p.Pnumber and p.Pname = "AL Rabwah" and w.Hours >= 10
```

5. Find the **fname** of the employees who **directly supervised** with '**Kamel Mohamed**'.

```
select Fname
from employee
where Superssn = (select SSN
                    from employee
                    where concat(Fname, ' ', Lname) = "Kamel Mohamed");
```

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

```
select Lname
from departments d, employee e
where d.MGRSSN = e.SSN and SSN not in (select ESSN from dependent);
```

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

```
select Dname
from employee e, departments d
where e.Dno = Dnum and SSN = (select Min(SSN) from employee);
```

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

```
select Dname, Max(Salary), Min(Salary), avg(Salary)
from departments d, employee e
where d.Dnum = e.Dno
group by Dname
```

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

```
select Dnum, Dname, count(SSN)
from employee e, departments d
where e.Dno = d.Dnum
group by Dnum, Dname
having avg(Salary) < 1200;
```

10. 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, works_for w, project p
where e.SSN = w.ESSn and w.pno = p.Pnumber
order by Dnum, Lname, Fname
```

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

```
select Pnumber, Dname, Lname, Address, Bdate
from project p, departments d, employee e
where p.Dnum = d.Dnum and d.MGRSSN = e.SSN and City = 'Cairo';
```