

## Lab 4

1. For each project, list the project name and the total hours per week (for all employees) spent on that project.

```
select p.Pname , sum(w.Hours)
from Project p join Works_for w
on p.Pnumber= w.Pno
group by p.Pname
```

2. Display the data of the department which has the smallest employee ID over all employees' ID.

```
select d.*
from Departments d join Employee e
on d.Dnum = endknot
where e.SSN =(select min(emp.SSN)
from Employee emp
where emp.Dno is not null
```

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

```
select d.Dname,max(e.Salary)"max salary",min(e.Salary)"min
salary",avg(e.Salary)"Avg salary"
from Departments d join Employee e
on d.Dnum=e.Dno
group by d.Dname
```

4. For each department-- if its average salary is less than the average salary of all employees-- display its number, name and number of its employees.

```
select d.Dname,d.Dnum,count(e.SSN)"numbers of employees"
from Departments d join Employee e
on(d.Dnum=e.Dno)
group by d.Dnum , d.Dname
having avg(e.Salary)<(select avg(Salary)
from Employee)
```

5. Try to get the max 2 salaries using subquery

```
select e.Salary
from Employee e
where e.Salary in (select top(2) Salary
from Employee
order by Salary desc)
```

6. Get the full name of employees that is similar to any dependent name

```
select e.Fname ,e.Lname
from Employee e join Dependent dd
on(e.SSN=dd.ESSN)
where e.Fname+' '+e.Lname like '%'+dd.Dependent_name+'%'
```

7. Insert your personal data to the employee table as a new employee in department number 30, SSN = 102672, Superssn = 112233, salary=3000.

```
insert Employee
values('Mohamed', 'Kamal', 102672, '2001-02-27',
      'center of fayoum', 'M', 3000, 112233, 30)
```

8. Insert another employee with personal data your friend as new employee in department number 30, SSN = 102660, but don't enter any value for salary or supervisor number to him.

```
insert Employee (Fname, Lname, SSN, Bdate, Address, Sex, Dno)
values('Kamal', 'fathi', 102660, '2000-12-12',
      'center of fayoum', 'M', 30)
```

9. Upgrade your salary by 20 % of its last value.

```
update Employee
set Salary = 1.2 * Salary
where SSN = 102672
```

10. In the department table insert new department called "DEPT IT", with id 100, employee with SSN = 112233 as a manager for this department. The start date for this manager is '1-11-2006'

```
insert into Departments
values('DEPT IT', 100, 112233, '2006-11-01')
```

11. Do what is required if you know that : Mrs.Noha Mohamed(SSN=968574) moved to be the manager of the new department (id = 100), and they give you(your SSN =102672) her position (Dept. 20 manager)

a. First try to update her record in the department table

```
update Departments
set MGRSSN = 968574
where Dnum = 100
```

b. Update your record to be department 20 manager.

```
update Departments
set MGRSSN = 102672
where Dnum = 20
```

c. Update the data of employee number=102660 to be in your teamwork (he will be supervised by you) (your SSN =102672)

```
update Employee
set Superssn = 102672
where SSN = 102660
```

12. Unfortunately the company ended the contract with Mr. Kamel Mohamed (SSN=223344) so try to delete his data from your database in case you know that you will be temporarily in his position.

Hint: (Check if Mr. Kamel has dependents, works as a department manager, supervises any employees or works in any projects and handle these cases).

```
delete from Dependent
where ESSN = 223344
update Departments
set MGRSSN = 102672
where MGRSSN = 223344
update Employee
set Superssn = 102672
where Superssn = 223344
update Works_for
set ESSn = 102672
where ESSn = 223344
delete from Employee
where SSN = 223344
```

13. Try to update all salaries of employees who work in Project 'Al Rabwah' by 30%

```
update Employee
set salary = 1.3 * Salary
where SSN in (select w.ESSn
from Works_for w join Project p
on (w.Pno=p.Pnumber)
where p.Pname='AL Rabwah')
```

14. Display the employee number and name if at least one of them have dependents (use exists keyword) self-study.

```
select e.SSN ,e.Fname+' '+e.Lname "Full name"
from Employee e
where exists( select *
from Dependent dd
where dd.ESSN=e.SSN)
```

15. Retrieve a list of employees names and the projects names they are working on ordered by department number and within each department, ordered alphabetically by last name, first name.

```
select e.Fname ,e.Lname ,e.Dno ,p.pname
from Employee e join Works_for w
on(e.SSN = w.ESSn)
join Project p
on(w.Pno = p.Pnumber)
order by e.Dno, e.Lname , e.Fname
```