

1. Display the name of the departments and the name of the projects under its control.

```
5 • SELECT Dname ,Pname
6 FROM Departments D, Project P
7 where D.Dnum = P.Dnum;
```

Dname	Pname
DP1	AL Solimaniah
DP1	Al Rabwah
DP1	Al Rawdah
DP2	Al Rowad
DP2	Ebad El Rahman
DP3	Al Rehab
DP3	Pitcho american

2. Display the full data about all the dependence associated with the name of the employee they depend on him/her.

```
9 • SELECT concat(fname, ' ', LName) AS EmployeeName , Dependent.*
10 FROM Employee JOIN Dependent ON Employee.SSN = Dependent.ESSN;
```

EmployeeName	ESSN	Dependent_name	Sex	BDate
Ahmed Ali	112233	Hala Saied Ali	F	1970-10-18 00:00:00
Kamel Mohamed	223344	Ahmed Kamel Shawki	M	1998-03-27 00:00:00
Kamel Mohamed	223344	Mona Adel Mohamed	F	1975-04-25 00:00:00
Amr Omran	321654	Omar Amr Omran	M	1993-03-30 00:00:00
Amr Omran	321654	Ramy Amr Omran	M	1990-01-26 00:00:00
Amr Omran	321654	Sanaa Gawish	F	1973-05-16 00:00:00
Edward Hanna	512463	Nora Ghaly	F	1976-06-22 00:00:00
Edward Hanna	512463	Sara Edward	F	2001-09-15 00:00:00

3. Display the Projects full data of the projects with a name starts with "a" letter.

```
1 • select project.* from project where Pname like 'a%';
2
```

Pname	Pnumber	Plocation	City	Dnum
Al Solimaniah	100	Cairo_Alex Road	Alex	10
Al Rabwah	200	6th of October City	Giza	10
Al Rawdah	300	Zaied City	Giza	10
Al Rowad	400	Cairo_Faiyom Road	Giza	20
Al Rehab	500	Nasr City	Cairo	30
NULL	NULL	NULL	NULL	NULL

4. display all the employees in department 30 whose salary from 1000 to 2000 LE monthly.

```
2 • select fname, lname from employee where DNO=30 and Salary between 1000 and 2000;
3
```

fname	lname
Edward	Hanna
Maged	Raouf

5. Retrieve the names of all employees in department 10 who works more than or equal 10 hours per week on "AL Rabwah" project.

```
3 • select fname, lname from employee ,works_for ,project
4 where Essn=SSN and Pno=Pnumber and DNO =10 and hours >= 10 and Pname='Al Rabwah';
```

fname	lname
Kamel	Mohamed

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

```
5 • select pname, sum(hours) as t_hours from project, works_for
5 where Pno=Pnumber group by pname;
```

pname	t_hours
AL Solimaniah	50
Al Rabwah	10
Al Rawdah	36
Al Rowad	39
Al Rehab	30
Pitcho american	45
Ebad El Rahman	22

7. Retrieve the names of all employees and the names of the projects they are working on, sorted by the project name.

```
7 • select fname, lname, pname from employee, project, works_for
8 where Essn=SSN and Pno=Pnumber order by Pname;
```

fname	lname	pname
Kamel	Mohamed	Al Rabwah
Kamel	Mohamed	Al Rawdah
Maged	Raouf	Al Rawdah
Mariam	Adel	Al Rawdah
Noha	Mohamed	Al Rawdah
Kamel	Mohamed	Al Rehab
Edward	Hanna	Al Rehab
Maged	Raouf	Al Rehab
Maged	Raouf	Al Rowad
Mariam	Adel	Al Rowad
Noha	Mohamed	Al Rowad
Ahmed	Ali	AL Solima...
Kamel	Mohamed	AL Solima...
Mariam	Adel	Ebad El R...
Noha	Mohamed	Ebad El R...
Edward	Hanna	Pitcho am...
Maged	Raouf	Pitcho am...

8. Display the data of the department which has the smallest employee

ID over all employees' ID.

```
9 • select departments.* from departments ,employee where DNO=Dnum order by SSN limit 1;  
0
```

Dname	Dnum	MGRSSN	MGRSattrDate
DP3	30	512463	2006-06-01

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

```
10 • select Dname ,max(salary) as max_salary,min(salary) min_salary, avg(salary) average_salary  
11 from departments,employee where Dnum=DNO group by Dname ;
```

Dname	max_salary	min_salary	average_salary
DP1	1800	800	1300.0000
DP2	1600	750	1175.0000
DP3	7000	1000	3166.6667

10.List the last name of all managers who have no dependent.

```
1 • Select Fname,lname, SSN  
2 FROM employee  
3 where SSN in (SELECT MGRSSN FROM departments) and  
4 SSN NOT IN (SELECT ESSN from dependent);
```

Fname	lname	SSN
Noha	Mohamed	968574
NULL	NULL	NULL

11.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.

```
1 • select Dnum,Dname,SSN from employee ,departments  
2 where Dnum=DNO group by Dname ,Dnum,SSN  
3 having avg(salary)< all(select avg(salary) from employee );  
4  
5  
6  
7
```

Dnum	Dname	SSN
10	DP1	112233
10	DP1	123456
10	DP1	223344
30	DP3	512463
30	DP3	521634
20	DP2	669955
20	DP2	968574

12.Retrieve a list of employees and the projects they are working on

ordered by department and within each department, ordered

alphabetically by last name, first name

```
1 • select Pname,fname,lname from employee,project,works_for,departments d
2 where Pno=Pnumber and Essn=SSN and d.Dnum =DNO
3 order by Dname,fname,Lname;
```

result Grid		
Filter Rows:		
Export: Wrap Cell Content:		
Pname	fname	lname
AL Solmaniah	Ahmed	Ali
Al Rehab	Kamel	Mohamed
Al Rawdah	Kamel	Mohamed
Al Rabwah	Kamel	Mohamed
AL Solmaniah	Kamel	Mohamed
Ebad El Rahman	Mariam	Adel
Al Rowad	Mariam	Adel
Al Rawdah	Mariam	Adel
Ebad El Rahman	Noha	Mohamed
Al Rowad	Noha	Mohamed
Al Rawdah	Noha	Mohamed
Pitcho american	Edward	Hanna
Al Rehab	Edward	Hanna
Pitcho american	Maged	Raouf
Al Rehab	Maged	Raouf

13.For each project located in Cairo, find the project number, the
controlling department name, the department manager last name,
address and birthdate.

```
1 • select pnumber,Dname,Fname,Lname,Address,BDate
2 from Departments D, Project P, Employee E
3 where City ='Cairo' and SSN = mgrssn and p.Dnum = D.Dnum;
```

result Grid					
Filter Rows:					
Export: Wrap Cell Content:					
pnumber	Dname	Fname	Lname	Address	BDate
500	DP3	Edward	Hanna	18 Abaas El 3akaad St. Nasr City.Cairo	1972-08-19
600	DP3	Edward	Hanna	18 Abaas El 3akaad St. Nasr City.Cairo	1972-08-19
700	DP2	Noha	Mohamed	55 Orabi St. El Mohandiseen .Cairo	1975-01-02