

Assignment 6

creating db and tables

```
create database exp6;
```

Database
exp3
exp4
exp6

```
use exp6;
```

```
mysql> use exp6;
Database changed
mysql> |
```

creating Department table

```
create table Departments(
    DepartmentID int primary key,
    DepartmentName varchar(24) not null
);
```

Field	Type	Null	Key	Default	Extra
DepartmentID	int	NO	PRI	NULL	
DepartmentName	varchar(24)	NO		NULL	

creating Employee table

```
create table Employees(
    EmpID int primary key,
    Name varchar(24) not null,
    ManagerID int,
    DepartmentID int not null,
    foreign key (ManagerID) references Employees(EmpID),
    foreign key (DepartmentID) references Departments(DepartmentID)
);
```

Field	Type	Null	Key	Default	Extra
EmpID	int	NO	PRI	NULL	
Name	varchar(24)	NO		NULL	
ManagerID	int	YES	MUL	NULL	
DepartmentID	int	NO	MUL	NULL	

create table Salaries

```
create table Salaries(
    EmpID int not null,
    Salary bigint not null,
    foreign key (EmpID) references Employees(EmpID)
);
```

Field	Type	Null	Key	Default	Extra
EmpID	int	NO	MUL	NULL	
Salary	bigint	NO		NULL	

inserting data in Departmentstable

```
insert into Departments values
(10,"HR"),
(20,"IT"),
(30,"Finance");
```

DepartmentID	DepartmentName
10	HR
20	IT
30	Finance

inserting data in Employees table

```
insert into Employees values
(1,"Alice",NULL,10),
(2,"Bob",1,10),
(3,"Charlie",1,20),
(4,"David",2,10),
(5,"Eva",2,30),
(6,"Frank",3,20);
```

EmpID	Name	ManagerID	DepartmentID
1	Alice	NULL	10
2	Bob	1	10
3	Charlie	1	20
4	David	2	10
5	Eva	2	30
6	Frank	3	20

inserting data in Salaries table

```
insert into Salaries values
(1,90000),
(2,60000),
(3,75000),
(4,50000),
(5,65000),
(6,70000);
```

EmpID	Salary
1	90000
2	60000
3	75000
4	50000
5	65000
6	70000

Questions

1. Write a query to display each employee's name along with their manager's name

```
select e.name as EmployeeName,m.name as ManagerName
from Employees e
join Employees m
on e.ManagerID = m.EmpID;
```

EmployeeName	ManagerName
Bob	Alice
Charlie	Alice
David	Bob
Eva	Bob
Frank	Charlie

2. Find employees who earn more than their managers.

```
select e.*  
from Employees e  
join Employees m on e.ManagerID = m.EmpID  
join Salaries e_sal on e.EmpID = e_sal.EmpID  
join Salaries m_sal on m.EmpID = m_sal.EmpID  
where e_sal.Salary > m_sal.Salary;
```

EmpID	Name	ManagerID	DepartmentID
5	Eva	2	30

3. List the names of employees working in the 'IT' department.

```
select e.name  
from Employees e  
join Departments d  
on e.DepartmentID = d.DepartmentID  
and d.DepartmentName = "IT";
```

name
Charlie
Frank

4. Display the department name along with the highest salary in that department.

```
select d.DepartmentName,max(s.Salary) as HighestSalary  
from Employees e  
join Departments d on e.DepartmentID = d.DepartmentID  
join Salaries s on e.EmpID = s.EmpID  
group by d.DepartmentID;
```

DepartmentName	HighestSalary
HR	90000
IT	75000
Finance	65000

5. Find employees who have the same salary as at least one other employee.

```
select e.* , s.Salary
from Employees e
join Salaries s on e.EmpID = s.EmpID
where s.Salary in (
    select Salary
    from Salaries
    group by Salary
    having count(*) > 1
);
```

```
Empty set (0.00 sec)
```

6. Write a query to display employees who do not manage anyone .

```
select e.*
from Employees e
where e.EmpID not in (
    select ManagerID from Employees
    where ManagerID is not null
);
```

EmpID	Name	ManagerID	DepartmentID
4	David	2	10
5	Eva	2	30
6	Frank	3	20

7. Display the names of employees whose salary is above the average salary.

```
select e.name
from Employees e
join Salaries s
on e.EmpID = s.EmpID
where s.Salary > (
    select avg(Salary) from Salaries
);
```

name
Alice
Charlie
Frank

8. Find employees working in departments where the manager's salary is greater than 80,000.

```
select e.*  
from Employees e  
where e.ManagerID is not null  
and e.DepartmentID in (  
    select distinct m.DepartmentID  
    from Employees m  
    join Salaries s on m.EmpID = s.EmpID  
    where s.Salary > 80000  
    and exists (  
        select 1  
        from Employees e_exi  
        where e_exi.ManagerID = m.EmpID  
    )  
);
```

EmpID	Name	ManagerID	DepartmentID
2	Bob	1	10
4	David	2	10

9. Find the names of employees who earn more than the average salary of their department.

```
select e.Name, s.Salary  
from Employees e  
join Salaries s on e.EmpID = s.EmpID  
where s.Salary > (  
    select avg(s_inner.Salary)  
    from Employees as e_inner  
    join Salaries as s_inner on e_inner.EmpID = s_inner.EmpID  
    where e_inner.DepartmentID = e.DepartmentID  
);
```

Name	Salary
Alice	90000
Charlie	75000

10. List employees whose salary is higher than at least one employee in the same department.

```
select e.name, s.salary, d.departmentname
from employees e
join salaries s on e.empid = s.empid
join departments d on e.departmentid = d.departmentid
where s.salary > (
    select min(s_inner.salary)
    from employees as e_inner
    join salaries as s_inner on e_inner.empid = s_inner.empid
    where e_inner.departmentid = e.departmentid
);
```

name	salary	departmentname
Alice	90000	HR
Bob	60000	HR
Charlie	75000	IT