1. Create a database with EmployeeSystem.

```
create database employeeSystem
```

2. Create tables based on ER diagram.

```
create table department(department_id int not null primary
key,name char(50) not null,description char(100));

create table employee(employee_id int not null primary
key,first_name char(50) not null,last_name char(50) not
null,gender char(6) not null,age int not null,email char(50)
not null,designation char(50) not null,hire_date date not
null,resigned_date date,address char(100),department_id
int,FOREIGN KEY (department_id) REFERENCES
department(department_id));

create table salary(salary_id int not null primary key,amount
float not null,bonus float,employee_id int,foreign key
(employee_id) references employee(employee_id));

create table project(project_id int not null primary key,name
char(50) not null,description char(100));

create table work(employee_id int,project_id int,primary
key(employee_id,project_id),foreign key (employee_id)
references employee(employee_id),foreign key (project_id)
references project(project_id));
```

3. Add 20 employees.

```
INSERT INTO employee
    -> (employee_id,first_name, last_name, gender, age,
email,designation,hire_date,department_id,address)
    -> VALUES
    -> (1,'Anish', 'Gurung', 'Male', 40, 'anish@gmail.com',
'IT engineer','2000-2-20',1,'bhaktapur'),
    -> (2,'Jenish', 'Thapa', 'Male', 36, 'jenish@gmail.com',
'Game developer','2000-9-30',1,'dillibazar'),
    -> (3,'Amit', 'Sherpa', 'Male',23, 'amit@gmail.com',
'account assistance','2000-12-30',3,'dillibazar'),
    -> (4,'Shresh', 'poudel', 'male',31, 'shresh@gmail.com',
'finance head','2021-9-10',1,'new baneshwor'),
    -> (5,'Sakar', 'phuyal', 'male', 28, 'sakar@gmail.com',
'account head','2021-9-10',2,'new baneshwor'),
    -> (6,'Anish', 'gupta', 'male', 31, 'anishOne@gmail.com',
'HR Manager','2021-11-10',4,'baktapur'),
    -> (7,'Ram', 'Thapa', 'Male',32, 'ram@gmail.com', 'IT
export','2021-9-12',4,'birgunj'),
```

```
    -> (8,'Ramesh', 'Gauta,', 'male',33, 'ramesh@gmail.com',
'QA','2000-2-22',1,'birgunj'),
    -> (9,'liza', 'Rai', 'female',39, 'liza@gmail.com',
'finace assistance','2000-9-30',5,'bhaktapur'),
    -> (10,'saman', 'Gupta', 'male',24, 'saman@gmail.com',
'Sales Manger','2021-9-20',3,'birgunj'),
    -> (11,'ashwarya', 'Gurung', 'female',26,
'ashwarya@gmail.com', 'It export','2021-6-12',1,'bhaktapur'),
    -> (12,'apex', 'Thapa', 'male',21, 'apex@gmail.com',
'sales assistance','2000-9-23',3,'birgunj'),
    -> (13,'liza', 'sherpa', 'female',22, 'lizzaa@gmail.com',
'marketing person','2000-5-20',2,'dillibazar'),
    ->
    -> (14,'saman', 'Thapa', 'male',31, 'saman@gmail.com', 'HR
manager ','2021-1-10',4,'dillibazar'),
    -> (15,'tam', 'thapa', 'male',21, 'tam@gmail.com', 'IT
export','2000-9-23',5,'kusma'),
    -> (16,'tam', 'gupta', 'male',32, 'tamOne@gmail.com',
'external partner','2021-3-23',1,'kusma'),
    -> (17,'ram', 'thapa', 'male',24, 'ram3@gmail.com',
'software export','2021-1-11',1,'kusma'),
    -> (18,'kiran', 'thapa', 'male',23, 'kiran@gmail.com',
'Manger assistance','2021-1-11',1,'kusma'),
    ->  (19,'dhiraj', 'poudel', 'male',30, 'diraj@gmail.com',
'software assistance','2000-11-11',1,'kusma'),
    ->  (20,'komal', 'poudel;', 'female',23,
'komal@gmail.com', 'IT export','2000-12-12',1,'kusma');
```

4. Add the salary of each employee.

```
INSERT INTO salary
    -> (salary_id,amount,employee_id)
    -> values
    -> (1,10000,1),
    -> (2,10000,2),
    -> (3,25000,3),
    -> (4,20000,4),
    -> (5,35000,5),
    -> (6,20000,6),
    -> (7,55000,7),
    -> (8,35000,8),
    -> (9,35000,9),
    -> (10,20000,10),
    -> (11,20000,11),
    -> (12,35000,12),
    -> (13,35000,13),
    -> (14,55000,14),
    -> (15,10000,15),
```

```
    -> (16,25000,16),
    -> (17,50000,17),
    -> (18,50000,18),
    -> (19,45000,19),
    -> (20,20000,20);
```

5. Add departments with employees working in it.

```
insert into department
-> values
-> (1,'IT','creating websites and other it work'),
-> (2,'Accountent','managing account'),
-> (3,'Marketing','analyzing market and selling product'),
-> (4,'Finance','keeping finance record'),
-> (5,'CEO','head of the company');
```

6. Add 7 projects.

```
INSERT INTO project
    -> (project_id,name,description)
    -> VALUES
    -> (1,'taba pay','payment related work'),
    -> (2,'Movie app','react project'),
    -> (3,'game development','javascript project'),
    -> (4, 'advertisement', 'marketing project'),
    -> (5,'register employees data', 'management project'),
    -> (6, 'Movie app', 'react project'),
    -> (7, 'advertisement', 'marketing project');
```

7. Move 3 employees to another department(any).

```
UPDATE employee
    -> SET department_id=2
    -> WHERE employee_id in(1,2,3);
```

8. Add resigned date for 2 employee.

```
UPDATE employee
    -> SET resigned_date='2000-9-9'
    -> WHERE employee_id in(2,3);
```

9. Show detail of employee whose first name start with ‘R’ or ‘r’.

```
select * from employee WHERE first_name like 'r%' or
first_name like 'R%';
```

10. Show detail of employees who work in more than one project.

```
SELECT e.*, w.project_id FROM employee as e
    -> JOIN work as w ON e.employee_id = w.employee_id GROUP
BY w.employee_id HAVING COUNT(w.employee_id)>1;
```

11. Count number of employee who have less than 20000 salary.

```
SELECT COUNT(employee_id) as totalEmployees
    -> FROM salary where amount<20000;
```

12. Increment salary of all employee by 10%.

```
update salary set amount=amount+(amount*0.1);
```

13. Give bonus of 10% to all employee hired before 2000-09-30.

```
UPDATE salary
    -> LEFT JOIN  employee
    -> ON salary.employee_id = employee.employee_id
    -> set bonus=amount*0.1
    -> WHERE employee.hire_date<'2000-09-30';
```

14. Find the average salary of each department, number of employee working on that department.

```
select e.department_id,avg(s.amount) as
AverageSalary,count(e.employee_id) as number_of_employee
    -> FROM employee as e
    -> inner join salary as s
    -> ON e.employee_id=s.employee_id
    -> GROUP BY e.department_id;
```

15. Select the employee from each department which has a maximum salary.

```
SELECT emp.employee_id, emp.first_name, emp.last_name,
emp.department_id, max(sal.amount) as maxsalary
    -> FROM employee AS emp
    -> JOIN salary sal
    -> ON emp.employee_id=sal.employee_id
    -> GROUP BY emp.department_id;
```

16. Select the employee from each department which has a maximum salary without using group by clause.

```
CREATE VIEW EmployeeSalary AS
    -> SELECT employee.*, salary.amount AS salary
    -> FROM employee JOIN salary
    -> ON employee.employee_id = salary.employee_id;

SELECT department.name AS 'department',
    -> EmployeeSalary.first_name AS Employee,
    -> EmployeeSalary.salary
    -> FROM department, EmployeeSalary
```

```
    -> WHERE department.department_id =
EmployeeSalary.department_id
    -> AND EmployeeSalary.salary =
    -> (SELECT MAX(EmployeeSalary.salary)
    -> FROM EmployeeSalary WHERE EmployeeSalary.Department_id
= Department.Department_id);
```

17. Check what happens when you want to delete an employee who have resigned; What needs to be done to delete?

If we to delete an employee who have resigned then we will get ERROR 1451 which indicates, that we cannot delete or update a parent row. So, in order to delete the employee data, we need to first remove employee data from salary table.