1. Create a database with EmployeeSystem.

create database employeeSystem

1. 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));

1. 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');

1. 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);

1. 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');

1. 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');

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

UPDATE employee

-> SET department\_id=2

-> WHERE employee\_id in(1,2,3);

1. Add resigned date for 2 employee.

UPDATE employee

-> SET resigned\_date='2000-9-9'

-> WHERE employee\_id in(2,3);

1. 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%';

1. 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;

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

SELECT COUNT(employee\_id) as totalEmployees

-> FROM salary where amount<20000;

1. Increment salary of all employee by 10%.

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

1. 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';

1. 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;

1. 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;

1. 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);

1. 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.