***MACHNET***

**SQL**

**Assignment**

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**GitHub Link:** [**https://github.com/Drt36/machnet-backend/tree/sql**](https://github.com/Drt36/machnet-backend/tree/sql)

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# 1.Create a database with EmployeeSystem.

Create database employeedb;

# **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,'Raman', 'gupta', 'Male', 35, '[Raman@gmail.com](mailto:Raman@gmail.com)', 'Prodct Engineer','1999-5-20',1,'birgunj'),   
(2,'Tommy', 'gupta', 'male', 24, '[Tommy@gmail.com](mailto:Tommy@gmail.com)', 'Mechanical Engineer','2012-6-20',1,'birgunj'),  
(3,'Kome', 'panday', 'female',28, '[Kome@gmail.com](mailto:Kome@gmail.com)', 'Sales manager','2021-7-20',3,'pokhara'),  
(4,'madhan', 'panday', 'male',21, '[madhan@gmail.com](mailto:madhan@gmail.com)', 'Software Engineer','2021-8-20',1,'birgunj'),  
(5,'sumit', 'gupta', 'male',25, '[sumit@gmail.com](mailto:sumit@gmail.com)', 'digital marketer','2000-08-30',2,'jaipur'),   
(6,'tome', 'gupta', 'male',21, '[tome@gmail.com](mailto:tome@gmail.com)', 'HR Manager','2015-11-20',4,'jaipur'),  
(7,'rame', 'gupta', 'female',23, '[rame@gmail.com](mailto:rame@gmail.com)', 'Jr. HR manager','2018-6-14',4,'birgunj'),  
(8,'Ramaner', 'gupta', 'male',23, '[Ramaner@gmail.com](mailto:Ramaner@gmail.com)', 'Sr. Software Engineer','2001-2-20',1,'birgunj'),  
(9,'rose', 'gupta', 'female',29, '[rose@gmail.com](mailto:rose@gmail.com)', 'Finance Manager','2000-08-30',5,'birgunj'),  
(10,'raxi', 'gupta', 'male',26, '[raxi@gmail.com](mailto:raxi@gmail.com)', 'Sales Manger','1995-9-20',3,'birgunj'),   
(11,'ashwarya', 'gupta', 'female',21, '[ashwarya@gmail.com](mailto:ashwarya@gmail.com)', 'Manager of It','2014-6-20',1,'birgunj'),  
(12,'testing', 'gupta', 'male',29, '[testing@gmail.com](mailto:testing@gmail.com)', 'sales person','2021-9-20',3,'birgunj'),   
(13,'dummy', 'gupta', 'female',27, '[dummy535@gmail.com](mailto:dummy535@gmail.com)', 'field marketer','2021-5-20',2,'birgunj'),   
(14,'ramnam', 'gupta', 'male',29, '[ramnam@gmail.com](mailto:ramnam@gmail.com)', 'HR manager ','2021-7-20',4,'birgunj'),  
(15,'tommy', 'gupta', 'female',31, '[tommy@gmail.com](mailto:tommy@gmail.com)', 'Finance head','2021-8-20',5,'birgunj'),  
(16,'testing', 'gupta', 'male',32, '[dummy532@gmail.com](mailto:dummy532@gmail.com)', 'Software Engineer','2021-7-20',1,'birgunj'),  
(17,'dummy', 'gupta', 'female',21, '[dummy533@gmail.com](mailto:dummy533@gmail.com)', 'Software Engineer','2021-11-14',1,'birgunj'),   
(18,'rame', 'gupta', 'male',22, '[dummy534@gmail.com](mailto:dummy534@gmail.com)', 'Manger','2021-2-20',1,'bhaktapur'),  
(19,'dharm', 'thanait', 'male',40, '[dhama531@gmail.com](mailto:dhama531@gmail.com)', 'Software Engineer','1998-11-14',1,'birgunj'),   
(20,'rame', 'gupta', 'male',21, '[rame546531@gmail.com](mailto:rame546531@gmail.com)', 'Manger','2021-2-20',1,'bhaktapur');

# 4.Add the salary of each employee.

INSERT INTO salary (salary\_id,amount,employee\_id)   
values  
(1,15000,1),   
(2,25000,2),  
(3,15000,3),   
(4,35000,4),  
(5,55000,5),   
(6,25000,6),  
(7,15000,7),   
(8,25000,8),  
(9,15000,9),   
(10,35000,10),  
(11,55000,11),   
(12,25000,12),  
(13,15000,13),   
(14,25000,14),  
(15,15000,15),   
(16,35000,16),  
(17,55000,17),   
(18,25000,18),  
(19,55000,19),   
(20,25000,20);

# 5.Add departments with employees working in it.

insert into department values (1,'Engineering','engineering related work'),(2,'Marketing','marketing related work'),(3,'Sales','sales related work'),(4,'HR','HR related work'),(5,'Finance','finance related work');

# 6.Add 7 projects.

INSERT INTO project(project\_id,name,description)   
values  
(1,'taba pay','payment related work'),   
(2,'sajilo shopping','ecommerce project'),  
(3,'TMS',3),   
(4,'School Management Software',NULL),  
(5,'Smart Indentity Card','To take attendence in smart way'),   
(6,'VR ecommerce',NULL),  
(7,'recommendation engine','to recommend related stuffs');

# 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='2021-8-28'  
WHERE employee\_id in(1,2);

# 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.\* 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 NumOfEmployee  
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 s   
LEFT JOIN employee e   
ON s.employee\_id = e.employee\_id   
set bonus=amount\*0.1  
WHERE e.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 NumofEmp   
FROM employee e  
inner join salary 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 e.\*, max(s.amount) as max\_salary  
from employee as e  
join salary s  
on e.employee\_id=s.employee\_id  
group by e.department\_id;

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

create view empsalary as  
select e.\*, s.amount as salary  
FROM employee e JOIN salary s  
on e.employee\_id = s.employee\_id;  
  
  
SELECT [department.name](http://department.name/) AS 'department',  
empsalary.first\_name AS Employee,  
empsalary.salary  
FROM department, empsalary  
WHERE department.department\_id = empsalary.department\_id  
AND empsalary.salary =  
(SELECT MAX(empsalary.salary)  
FROM empsalary WHERE empsalary.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?

Error: "Cannot delete or update a parent row: a foreign key constraint fails"  
  
Action: delete employee from salary then delete from employee