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create database sqlquery;
use sqlquery;
set sql_safe_updates = 0;

create table department(
dept_id int primary key,
dept_name varchar(25)
);
create table Employee(
emp_id int primary key,
emp_name varchar(100),
DOJ date,
salary int,
dept_id int,
Jobtitle varchar(30),
Manager varchar(20),
Location varchar(15),
Email varchar(50),
phone_no long not null,
foreign key (dept_id) references department(dept_id)
);
create table Project(
Project_a boolean,
Project_B boolean,
emp_id int,
foreign key (emp_id) references Employee (emp_id));

insert into department values(1, 'HR'), (2, 'Development'), (3, 'Testing');

insert into Employee values (1, 'Priya', '2017-10-29', 70000, 1, 'HR', 'Varun', 'New
York', 'priya123@gmail.com', 9263781928),
(2, 'Dhivya', '2019-05-15', 40000, 2, 'Automation
Tester', 'Ravi', 'US', 'dhivya10@gmail.com', 8997785287),
(3, 'Saru', '2014-09-05', 55000, 3, 'Financial
Planner', 'kavya', 'Canada', 'saru27@gmail.com', 9341616938),
(4, 'Ram', '2023-08-27', 25000, 2, 'Cloud Computing Engineer', 'Shree', 'New
York', 'ran2529@gmail.com', 9759732873),
(5, 'Hari', '2015-05-
06', 26000, 1, 'HR', 'Varun', 'India', 'hari123@gmail.com', 9965316708);

insert into Project values
(true, false, 1),
(true, true, 2),
(false, false, 3),
(false, true, 4),
(false, false, 5);

select * from department;
select * from Employee;
select * from Project;

/*Basic Queries*/
/*1*/ select * from Employee as Employee_Data;
/*2*/ select emp_name, salary from Employee;
/*3*/ select emp_name from Employee where salary > 50000;
/*4*/ select emp_Name from Employee where Year(DOJ) = 2019;
/*5*/ select * from Employee where emp_Name like 'A%';
/*Aggregate*/
/*6*/ select avg(salary) as Average_Salary from Employee;
/*7*/ select count(*) as Employee_Count from Employee;
/*8*/ select max(Salary) as Highest_Salary from Employee;
/*9*/ select sum(Salary) as Total_Salary_Paid from Employee;
/*10*/ select dept_id, count(*) as Each_dept_Count from Employee group by
dept_id;

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/*Joins*/
/*11*/ select e.emp_name,d.dept_name from Employee e inner join department d on
d.dept_id = e.dept_id;
/*12*/ select e.emp_name, e2.Manager from Employee e
join Employee e2 ON e2.emp_id=e.emp_id where e2.Manager IS NOT NULL;
/*13*/ select e.emp_name from Employee e join Project p on e.emp_Id = p.emp_Id
where p.Project_A is not null and p.Project_B is not null;
/*14*/ select e.emp_name, p.Project_A, p.Project_B from Employee e join Project
p on e.emp_id = p.emp_id
where p.Project_A = 1 or p.Project_B = 1 or (p.Project_A = 1 and p.Project_B =
1);
/*15*/ select * from Employee e join Project p on e.emp_id = p.emp_id WHERE
p.Project_A is NULL or p.Project_B is NULL;
/*Sub Queries*/
/*16*/ select salary from Employee where salary < (select max(salary) from
Employee) order by salary desc limit 1;
/*17*/ select e.emp_name from Employee e where e.salary > (select avg(e2.salary)
from Employee e2 where e2.dept_id = e.dept_id group by e2.dept_id);
/*18*/ select emp_name,salary from Employee where salary > (select avg(salary)
from Employee);
/*19*/ select d.dept_name, count(e.emp_id) as Employee_Count from Department D
join
Employee e on d.dept_id = e.dept_id group by d.dept_name order by Employee_Count
desc limit 1;
/*20*/ select emp_name from Employee where Location in ('New York');
/*Set Operations*/
/*21*/ select emp.emp_name,dep.dept_name from Employee emp join
Department dep on emp.dept_Id = dep.dept_Id where dep.dept_name = 'HR';
/*22*/ select emp.emp_name as Working_On_Two_Projects from Employee emp join
Project pro on emp.emp_id = pro.emp_id where pro.Project_A = 1 and pro.Project_B
= 1;
/*23*/ select emp.emp_name as Not_Working_On_Projects from Employee emp join
Project pro on emp.emp_id = pro.emp_id where pro.Project_A = 0 and pro.Project_B
= 0;
/*24*/
create table Former_Employee(
emp_id int primary key,
emp_name varchar(100),
DOJ date,
salary int,
dept_id int,
Jobtitle varchar(30),
Manager varchar(20),
Location varchar(15),
Email varchar(50),
phone_no long not null,
foreign key (dept_id) references department(dept_id)
);
insert into Former_Employee values
(3,'Saru','2014-09-05',55000,3,'Financial
Planner','kavya','Canada','saru27@gmail.com',9341616938),
(5,'Hari','2015-05-
06',26000,1,'HR','Varun','India','hari123@gmail.com',9965316708);
/*25*/ select * from Employee union select * from Former_Employee as
combined_Table;
/* DML and DDL */
/*26*/ insert into Employee values (6,'Swetha','2024-06-06',20000,3,'Financial
Planner','Shreya','India','shalinismile@gmail.com',7678656766);
insert into Project values(true,false,6);
/*27*/ update Employee set salary = (salary*1.10) where dept_id in(select
dept_id from department where dept_name = 'IT');
/*28*/ delete from Employee where DOJ <= CURDATE() - INTERVAL 4 YEAR;
/*29*/ create table department_backups(
dept_id int primary key,

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dept_name varchar(100));  
/*30*/ truncate table Employee;  
/*Constraints*/  
/*33*/ alter table Employee add constraint unique(Email);  
/*34*/ select CONSTRAINT_NAME,CONSTRAINT_TYPE FROM  
INFORMATION_SCHEMA.TABLE_CONSTRAINTS  
where TABLE_NAME = 'Employee';  
/*35*/ alter table Employee modify column phone_no long;
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