MYSQL ASSIGNMENT 5

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drop database company;
create database company;
use company;
create table employees(emp id int unique, emp name varchar(20),
department id int);
insert into employees(emp id, emp name, department id)
values(1,'Alice',10),(2,'Bob',20),(3,'Charlie',30),(4,'David',10),(5,'Eve',40);
select * from employees;
create table departments (department id int unique, department name
varchar(20));
insert into departments (department id, department name)
values(10,'HR'),(20,'Finance'),(30,'IT'),(40,'Admin'),(50,'Marketing');
select * from departments;
create table projects(project_id int unique, emp_id int, projects_name
varchar(20));
insert into projects(project id, emp id, projects name)
values(101,1,'Alpha'),(102,2,'Beta'),(103,3,'Gamma'),(104,4,'Delta');
select * from projects;
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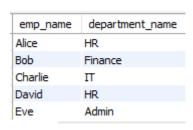
#1. Write a query to get Employee and Department details using join.

select * from employees join departments on employees.department_id = departments.department_id;

emp_id	emp_name	department_id	department_id	department_name
1	Alice	10	10	HR
2	Bob	20	20	Finance
3	Charlie	30	30	Π
4	David	10	10	HR
5	Eve	40	40	Admin

#2.Write a query to retrieve all employees with their departments, even if the department is missing.

select emp_name, department_name from employees left join departments on employees.department_id = departments.department_id;



#3. Write a query to get department details even if there are no employees in that department.

select department_name, emp_name from employees right join departments
on employees.department_id = departments.department_id;

department_name	emp_name
HR	David
HR	Alice
Finance	Bob
Π	Charlie
Admin	Eve
Marketing	NULL

#4. Write a query to get all employees and departments, whether matched or not.

select * from employees left join departments on employees.department_id = departments.department_id union

select * from employees right join departments on employees.department_id =
departments.department_id;

emp_id	emp_name	department_id	department_id	department_name
1	Alice	10	10	HR
2	Bob	20	20	Finance
3	Charlie	30	30	Π
4	David	10	10	HR
5	Eve	40	40	Admin
NULL	NULL	NULL	50	Marketing

#5.JOIN three tables (Employees, Departments, Projects) to get employee, department, and project information.

select * from employees left join departments on employees.department_id =
departments.department_id left join projects on employees.emp_id =
projects.emp_id;

emp_id	emp_name	department_id	department_id	department_name	project_id	emp_id	projects_name
1	Alice	10	10	HR	101	1	Alpha
2	Bob	20	20	Finance	102	2	Beta
3	Charlie	30	30	Π	103	3	Gamma
4	David	10	10	HR	104	4	Delta
5	Eve	40	40	Admin	NULL	NULL	NULL

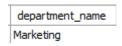
#6. Find employees who are not assigned to any projects.

select * from employees join projects on employees.emp_id = projects.emp_id where projects_name is null;



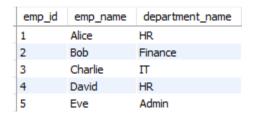
#7. Find departments with no employees using a RIGHT JOIN.

select department_name from employees right join departments on departments.department_id = employees.department_id where employees.department_id is null;



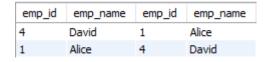
#8. Write a query to get Employee and Department details using join with aliases.

select emp_id, emp_name, department_name from employees join departments on employees.department_id = departments.department_id;



#9. Write a query to find employees in the same department as other employees.

select a.emp_id, a.emp_name, b.emp_id, b.emp_name from employees a join employees b on a.department_id = b.department_id and a.emp_id != b.emp_id;



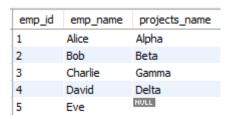
#10.Write a query to find projects managed by employees in the 'IT' department.

select p.project_id, p.projects_name from projects p join employees e on
p.emp_id = e.emp_id join departments d on e.department_id =
d.department_id where d.department_name = 'IT';



#11.Write a query to show employees and their project information (even if not assigned to a project).

select e.emp_id, e.emp_name, p.projects_name from employees e left join projects p on e.emp_id = p.emp_id;



#12.Find employees who work in departments with names starting with 'A'.

select e.emp_id, e.emp_name from employees e join departments d on
e.department_id = d.department_id where d.department_name like 'A%';



#13. Find the total number of employees in each department using GROUP BY and JOIN.

select d.department_name, COUNT(e.emp_id) as TotalEmployees from departments d left join employees e on d.department_id = e.department_id group by d.department_name;

department_name	TotalEmployees
HR	2
Finance	1
IT	1
Admin	1
Marketing	0

#14.Get the list of departments with more than one employee.

select d.department_name, COUNT(e.emp_id) as EmployeeCount from
departments d join employees e on d.department_id = e.department_id group
by d.department_name having COUNT(e.emp_id) > 1;

department_name	EmployeeCount
HR	2