MYSQL ASSIGNMENT 5

```
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;
```

#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	IT
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;

emp_name	department_name
Alice	HR
Bob	Finance
Charlie	IT
David	HR
Eve	Admin

#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
IT	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	IT
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	IT	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;

emp_id	emp_name	department_id	project_id	emp_id	projects_name

#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;

department_name
Marketing

#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;

emp_id	emp_name	department_name
1	Alice	HR
2	Bob	Finance
3	Charlie	IT
4	David	HR
5	Eve	Admin

#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;

emp_id	emp_name	emp_id	emp_name
4	David	1	Alice
1	Alice	4	David

#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';

project_id	projects_name
103	Gamma

#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;

emp_id	emp_name	projects_name
1	Alice	Alpha
2	Bob	Beta
3	Charlie	Gamma
4	David	Delta
5	Eve	NULL

#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%';

emp_id	emp_name
5	Eve

#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