**MySql\_Examination**

**Task- 1:**

Create two tables: users and orders.

Each user can have multiple orders.

Write a SQL query to fetch the names of users along with the total number of orders they have placed.

* Select u.username,count(o.order\_id) as total\_orders from users u left join orders o on u.user\_id =o.user\_id group by u.user\_id, u.username;

**Task-2:**

You are working with a database that stores information about students and their courses. There are three tables: students, courses, and enrollments.

Write a SQL query to display the names of students along with the courses they have enrolled in.

* Select s.first\_name,s.last\_name,c.course\_name from students s join enrollments e on s.student\_id = e.student\_id join courses c on e.course\_id = c.course\_id;

**Task-3:**

You need to retrieve data from a database that tracks product sales. There are tables for products, sales, and customers.

Write a SQL query to show the total sales amount for each product category.

* Select p.category,sum(s,total\_amount) as total\_sales\_amount from products p join sales s on p.product\_id = s.product\_id group by p.category;

**Task-4:**

You have a database containing information about employees in a company.

Write a SQL query to list the names of employees along with their respective managers' names.

* Alter table employees add column manager\_id int,add foreign key(manager\_id) references employees(employee\_id)on delete set null;
* Select e.first\_name as employee\_first\_name,

e.last\_name as employee\_last\_name,

m.first\_name as manager\_first\_name,

m.last\_name as manager\_last\_name from employees e left join employees m on e.manager\_id = m.employee\_id;

**Task-5:**

You are managing a database for an online store.

Write a query to retrieve the top 10 bestselling products based on the total number of units sold.

* Select p.product\_id,p.product\_name,sum(oi.quantity) as total\_units\_sold from products p join order\_items oi on p.product\_id = oi.product\_id group by p.product\_id, p.product\_name order by total\_units\_sold desc limit 10;

**Task-6:**

You have tables for students, courses, and grades.

Write a SQL query to display the average grade for each student.

* Select s.student\_id,s.first\_name,s.last\_name, avg(g.grade) as average\_grade from students s left join grades g on s.student\_id = g.student\_id group by s.student\_id,s.first\_name, s.last\_name order\_by average\_grade desc;

**Task-7:**

You are working with a database for a social media platform.

Write a query to show the users who have the most friends.

* select u.user\_id, u.username, count(case when f.user\_id\_1 = u.user\_id then f.user\_id\_2 else f.user\_id\_1 end) as friend\_count from users u left join friends f on u.user\_id = f.user\_id\_1 or u.user\_id = f.user\_id\_2 group by u.user\_id, u.username order by friend\_count desc limit 10;

**Task-8:**

You have tables for employees and departments.

Write a query to display the department names along with the total number of employees in each department.

* select d.department\_name, count(e.employee\_id) as total\_employees from departments d left join employees e on d.department\_id = e.department\_id group by d.department\_id, d.department\_name order by total\_employees desc;

**Task-9:**

You need to retrieve data from a database tracking product inventory.

Write a query to display products with low stock (less than 10 units).

* Select product\_id,product\_name,stock\_quantity from products where stock\_quantity < 10;

**Task-10:**

You have tables for customers and orders.

Write a query to show the average order value for each customer.

* Select c.customer\_id,c.customer\_name,avg(o.order\_value) as average\_order\_value from customers c left join orders o on c.customer\_id = o.customer\_id group by c.customer\_id, c.customer\_name order by average\_order\_value desc;

**Task-11:**

In a database storing movie information,

Write a query to show the top 5 highest-rated movies by users.

* Select title,rating from movie order by rating desc limit 5;

**Task-12:**

You have tables for invoices and payments.

Write a query to show the unpaid invoices and their total amount.

* Select i.invoice\_id,i.customer\_id,i.total\_amount,(i.total\_amount – coalesce(sum(p.amount), 0)) as unpaind\_amount from invoices I left join payments p on i.invoice\_id = p.invoice\_id group by i.invoice\_id, i.customer\_id, I.total\_amount having unpaid\_amount > 0 order by unpaid\_amount desc;