**Section 3: Project-Related SQL Questions**

1. **Given a sales table, write a SQL query to list the top 3 best-selling products in the last month.**

Solution –

Select product\_name , sum(qty) as total\_qty from porducts

Where sales\_month = “October”

Group by product\_name

Order by total\_qty desc

Limit 3;

1. **Describe the SQL process you would use to normalize a table with redundant data.**

Solution –

a. Identify the Primary Key

b. Identify Functional Dependencies

c. Define Relationships

1. **How would you write a SQL statement to merge data from two tables orders and products, where each order includes the product name, not just the ID?**

Solution –

SELECT o.order\_id , o.product\_id o.order\_qty, p.product\_name from orders as o

Join products as p

On o.product\_id=p.product\_id;

1. **If you wanted to provide a roll-up report of sales by quarter and by region, which SQL clause would you use?**

Solution –

we would use the GROUP BY clause in SQL.

1. **Imagine you have a database that is running slow. What SQL commands might you use to diagnose and fix the performance issues?**

Solution –

* Identify Slow Queries
* ANALYZE TABLE table\_name;
* SHOW INDEX FROM table\_name;