Project Report: Online Retail Sales Database

1. Introduction

The Online Retail Sales Database project was developed to manage customers, products, orders, and payments in an e-commerce platform. It ensures normalized schema design, efficient order tracking, and sales reporting using SQL Workbench/MySQL.

2. Abstract

The project focuses on designing a 3NF database for online retail. It supports customer details, product catalogs, order processing, and payment tracking. Key SQL concepts such as joins, views, subqueries, and triggers were implemented to provide sales insights and manage stock levels.

3. Tools Used

- MySQL Workbench for schema design and queries
- dbdiagram.io / Graphviz for ER diagrams
- SQL scripts for schema, data insertion, and queries

4. Steps Involved in Building the Project

1. Requirement analysis and identification of entities (Customers, Products, Orders, Payments).
2. Designing ER diagram showing relationships between entities.
3. Writing CREATE TABLE statements with primary and foreign keys.
4. Inserting sample data into tables.
5. Writing SQL queries for sales reports (joins, group by).
6. Creating views for sales summaries.
7. Adding triggers to reduce stock after purchase.
8. Testing with sample queries.

5. Conclusion

The Retail Sales Database provides a scalable backend for online commerce platforms. It demonstrates core SQL skills including schema design, normalization, joins, views, procedures, and triggers. This system can be extended to support analytics, inventory management, and customer insights.