**1. Report and Discussion of Completed Labs**

This section should include a week-by-week report covering each lab activity and SQL solution.

**Example Structure for Each Lab**

* **Lab 1**: Introduction to Data and Metadata
  + **Tasks Covered**: Define data, information, metadata, and the importance of data privacy and security.
  + **SQL Queries**: Not applicable for this lab. Focus on data and metadata concepts and privacy issues.
  + **Summary**: Discuss the importance of data privacy, difference between data and information, and measures for data protection.
* **Lab 2**: Database Design and Hierarchy
  + **Tasks Covered**: Explain ER modeling terms and create an ER diagram for a specified scenario.
  + **ER Diagrams**: Include the ER diagrams created for scenarios like customer orders or the hospital system.
  + **Summary**: Briefly summarize each ER diagram, describe entity relationships, and discuss design considerations.
* **Lab 3**: Database Normalization​
  + **Tasks Covered**: Define normalization terms, identify anomalies, and demonstrate 1NF, 2NF, and 3NF for given tables.
  + **SQL Queries and Examples**:
    - Queries for creating normalized tables.
  + **Summary**: Explain the importance of normalization, describe each anomaly, and show examples of tables in each normal form.
* **Lab 4**: HR System and Banking System
  + **Tasks Covered**: Create a database schema for an HR system and bank system, insert sample data, and execute data retrieval queries.
  + **SQL Queries**:
    - Queries to create FACULTY and STAFF tables.
    - Queries to insert data and update records.
    - Retrieval queries to list specific employee details.
  + **Summary**: Discuss the use of primary and foreign keys in creating relationships, as well as examples of retrieving and modifying records in these tables.
* **Lab 5**: Advanced SQL Queries and Functions​
  + **Tasks Covered**: Write SQL queries for complex data manipulation, including JOINs, aggregation, and text replacement.
  + **SQL Queries**:
    - Aggregation queries to count transactions and calculate balances.
    - Queries using REPLACE to standardize text formats.
    - Case-based queries to group employees by job title.
  + **Summary**: Highlight the advanced SQL techniques used and explain the importance of maintaining data integrity in banking applications.

**2. Personal Reflection and Critical Evaluation**

In this section, reflect on your learning experience throughout the labs, including any challenges you faced and how you overcame them. You should include:

* **Group Dynamics**:
  + Reflect on how you worked with your group members, detailing the strengths each person brought to the table and how tasks were divided. Discuss how collaboration influenced the overall success of the project.
* **Challenges and Solutions**:
  + Describe any technical challenges you encountered and how you addressed them.
  + Mention any tools or resources that helped, such as SQL references or ER modeling software.
* **Key Takeaways**:
  + Discuss the skills and knowledge gained, such as understanding relational integrity, mastering normalization, and developing complex SQL queries.
  + Reflect on how these skills can be applied in future projects or real-world applications.