

Personal Reflection

Wang Yiming 2023010204

After completing the Database course, I have conducted in - depth self - reflection, reviewing the gains, deficiencies, and valuable experiences throughout the learning process.

1.Main Gains in Course Learning

Through this course, I have systematically studied the fundamental concepts of databases, including database models (such as hierarchical model, network model, and relational model). The design of Entity - Relationship (E - R) diagrams in the relational model has enabled me to deeply understand how to abstract the complex business logic in the real world into a clear database structure.

I have thoroughly grasped the normalization theory of databases, ranging from the First Normal Form (1NF) to the Third Normal Form (3NF). I understand that the significance of normalization lies in reducing data redundancy and avoiding data update anomalies.

The study of SQL language is one of the core contents of this course. I have proficiently mastered the Data Definition Language

(DDL) of SQL and am able to create and modify database objects such as databases, tables, and indexes. In terms of the Data Manipulation Language (DML), I have gained an in - depth understanding of various usages of query statements (SELECT), including simple queries, join queries, nested queries, and group queries.

2.Future Learning Directions

For complex concepts such as database transaction processing and concurrency control, I will review the course materials again and consult relevant academic papers and professional books to deeply understand the principles and application scenarios of various concurrency control algorithms. By actually writing code to simulate concurrent access situations and comparing the advantages and disadvantages of different algorithms, I will deepen my understanding and mastery of these concepts.

I will improve my practical operation ability. In terms of SQL query optimization, I will systematically study the theoretical knowledge and methods of database performance optimization, including the principles of indexes and optimization strategies, and the analysis of query execution plans.

3.Summary

In conclusion, the Database course has brought me abundant gains, but it has also made me aware of the deficiencies in my learning process. Through this reflection, I have clarified the direction and goals for improvement. In future studies and practices, I will strive to make up for these deficiencies and further enhance my knowledge and skill level in the field of databases.