

Homework for Section 3.1: Introduction to SQL and Databases

Objective:

Practice foundational SQL concepts by understanding relational database principles and writing basic SQL queries.

Part 1: Understand Relational Databases

1. **Define Key Terms:**

- In your own words, define the following:
 - Table
 - Row
 - Column
 - Primary Key
 - Foreign Key

2. **Explain the Purpose of SQL:**

- Write a 2–3 sentence explanation of what SQL is and why it is used.
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Part 2: Basic SQL Queries

1. **Example Table:**

- Imagine the following table called **Students**:

StudentID	Name	Age	Major
1	Alice	20	Math
2	Bob	22	Biology
3	Charlie	19	Computer Science

Write SQL Queries for These Questions:

- Select all columns from the **Students** table.
 - Select only the **Name** and **Major** columns.
 - Filter to find students older than 20.
 - Sort the table by **Age** in ascending order.
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Part 3: Reflection Questions

1. What is the difference between a primary key and a foreign key?
2. Why is SQL important for data analysis?