Explanation of Database Structure and Choices

I created a SQLite3 database called **"student_database.db"** and defined the **student table** with the required structure.

Structure of the Student Table: The structure of the **student table** will be as follows:

- ✓ student_ id (integer, primary key)
- ✓ student_name (text)
- ✓ dept (text)
- ✓ cgpa (real)
- ✓ semester (text)

The id is an auto-incremented integer that serves as each students' unique identification. I picked this structure to store basic information about students.

SQLite: SQLite was chosen for its simplicity and ease of use. It is a serverless database that allows us to demonstrate the concepts without requiring a separate server.

Python script for interaction: The below functions are created to interact with the database:

- ✓ add_student(): Add a student to the database.
- ✓ retrieve_students(): Retrieve all students from the database.
- ✓ update_student(): Update a student's CGPA and semester.
- ✓ delete_student(): Delete a student from the database.

These above functions encapsulate the SQL queries for each operation. I used that parameterized queries to prevent SQL injection attacks.