AeroAspire -SDE Intern Training

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Learning Topics:

- DB integration
- ORM vs direct SQL

Tasks:

- Connect Flask to SQLite or MySQL
- Implement CRUD using raw SQL or ORM (SQLAlchemy)

Questions:

1. What is ORM, what are its advantages & disadvantages?
   a. ORM is Object Relational Mapping
   b. Used to connect database
   c. Maps to tables and rows, columns
   d. Advantages
      i. Makes coding database tasks easier and faster
      ii. We don't have to write a separate sql command
      iii. Updates automatically when I change any row or column
      iv. Gives table like preview which helps keeping data organized
   e. Disadvantages
      i. Hard to execute complex sql queries
      ii. Slow for large data
2. How does parameterized query prevent SQL injection?
   a. Instead of inserting user data directly in SQL strings, we can use placeholders
   b. And the code sends data separately from these
   c. The data base trets these as data so SQL injection is prevented
3. What is the flow from request → ORM / SQL → DB → return result → commit / rollback?
   a. User sends a request to the flask server
   b. ORM code is generated for the methods
   c. Database receives the query, and processes it
   d. ORM commits these changes
   e. We can see these changes in db then