SQL

SQL was introduced in the 1970s by IBM for querying and managing databases.

SQL is easy language for accessing and managing data in tables. it lets you store, edit, and retrieve data simple.

Basic SQL Concepts Here are three basic concepts to get you started with SQL:

- **Tables**: A table is like a spreadsheet with rows and columns. Each row represents a single record, and each column represents a field or attribute of that record.
- Queries: A query is a request to retrieve or manipulate data in a database. You can think of it like asking a question, and the database responds with the answer.
- Commands: SQL commands are used to perform specific actions on a database, such as creating a new table, inserting data, or updating existing data.

<u>SELECT * FROM database WHERE username='admin' AND password='password';</u>

<u>SELECT * FROM database WHERE username='admin'—' AND password='password';</u>

does the following:

Authenticates a user: The command tries to find a match in the database for a user with the username 'admin' and password 'password'. If a matching row is found, it returns all columns for that row. In simpler terms, this command is like asking the database: "Is there a user with the username 'admin' and password 'password'? If so, give me all the information about that user." The command is essentially trying to log in to the system as the user 'admin' with the password 'password'. If the credentials match, the command will return the user's data.