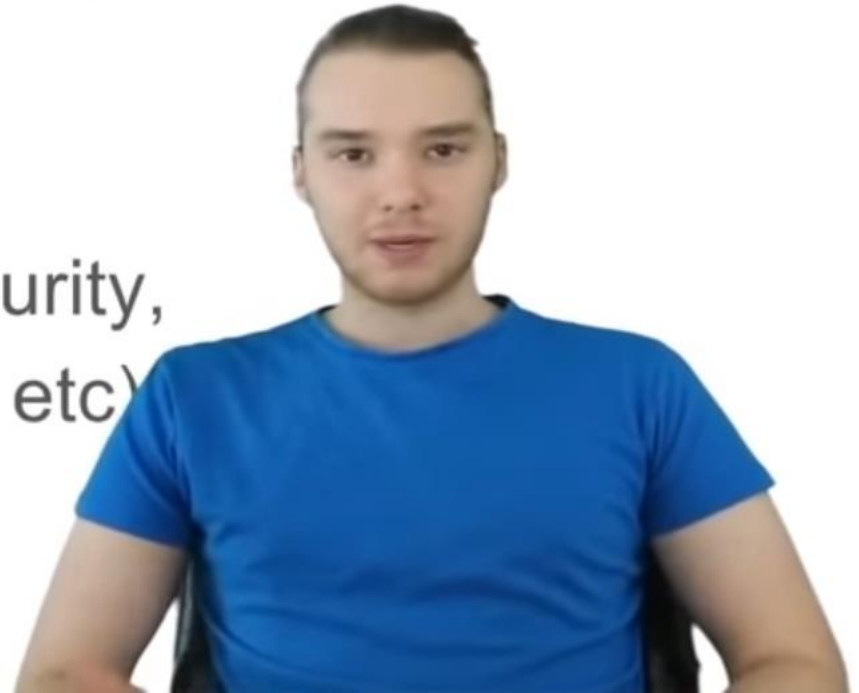# SQL Basics

Structured Query Language (SQL)

- SQL is a language used for interacting with Relational Database Management Systems (RDBMS)
    - You can use SQL to get the RDBMS to do things for you
        - Create, retrieve, update & delete data
        - Create & manage databases
        - Design & create database tables
        - Perform administration tasks (security, user management, import/export, etc)
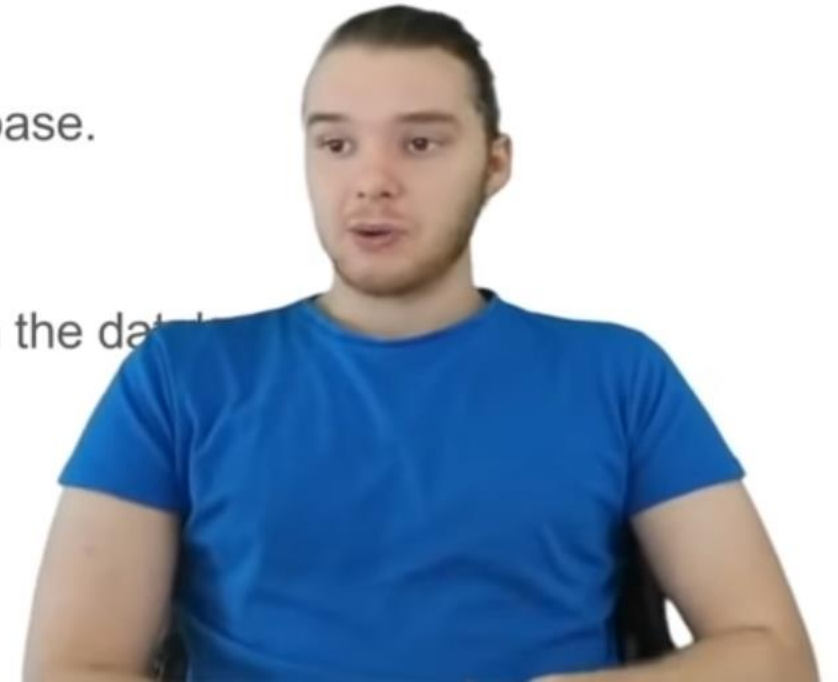
Structured Query Language (SQL)

- SQL implementations vary between systems
  - Not all RDBMS' follow the SQL standard to a 'T'
  - The concepts are the same but the implementation may vary

Structured Query Language (SQL)

- SQL is actually a hybrid language, it's basically 4 types of languages in one
  - **Data Query Language (DQL)**
    - Used to query the database for information.
    - Get information that is already stored there
  - **Data Definition Language (DDL)**
    - Used for defining database schemas.
  - **Data Control Language (DCL)**
    - Used for controlling access to the data in the database.
    - User & permissions management
  - **Data Manipulation Language (DML)**
    - Used for inserting, updating and deleting data from the da[ta]

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Queries

- A query is a set of instructions given to the RDBMS (written is SQL) that tell the RDBMS what information you want it to retrieve for you
    - TONS of data in a DB
    - Often hidden in a complex schema
    - Goal is to only get the data you need

```
1   SELECT employee.name, employee.age
2   FROM employee
3   WHERE employee.salary > 30000;
```

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