

# Computer Basics: Database

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## Database Basics

**What is a database?** \* A database is an organized collection of data, or information, that is stored electronically on a computer system. \* Databases are used to store a wide variety of data, such as customer information, product information, financial data, and scientific data.

**Why use a database?** \* Databases offer a number of advantages over traditional methods of data storage, such as paper files and spreadsheets. \* Databases are **more efficient** to store and manage large amounts of data. \* Databases allow for **easy searching and retrieval of data**. \* Databases can be used to **share data** with other users.

**Types of databases:** \* There are many different types of databases, but the most common are **relational databases** and **non-relational databases**. \* **Relational databases** store data in tables, where each table is made up of rows and columns. \* **Non-relational databases** store data in a variety of formats, such as XML or JSON.

## Database Design

- Database design is the process of creating a database that is efficient and meets the needs of the users.
- There are a number of steps involved in database design, such as:
  - Identifying the data that needs to be stored
  - Determining the relationships between the data
  - Normalizing the data
  - Creating a database schema

## Database Management Systems (DBMS)

- A database management system (DBMS) is a software program that is used to create, manage, and access databases.
- Some popular DBMSs include Oracle, MySQL, and Microsoft SQL Server.

## SQL

- SQL is a structured query language that is used to communicate with databases.
- SQL can be used to create, read, update, and delete data in a database.

### See also:

- Khan Academy Database Course: <https://www.khanacademy.org/computing/computer-programming/sql>
- W3Schools SQL Tutorial: <https://www.w3schools.com/sql/>