Power
Learn
Project

Power
Learn
Project

Database Design - week 1

Power
Learn
Project

Database Design

You are live with Gerald Macherechedze

Learning Objectives

This lesson covers the following objectives:

- Distinguish the difference between data and information, and provide examples of each.
- Describe and give an example of how data becomes information
- Set up MySQL Workbench

Purpose

- All kinds of information (school records, mobile telephone records, ring tone downloads, grocery purchases) are stored in databases.
- We interact with databases every day, consciously or unconsciously.
- It is important to understand what is stored in a database and what can be retrieved from it.

Data Compared to Information

- If you work in the information-technology industry, it is essential to understand how data is modeled and stored in a database.
- If you work in any other industry, you will most likely have to work with data stored somewhere on a computer and probably be required to use data in your job to create reports and/or make decisions.

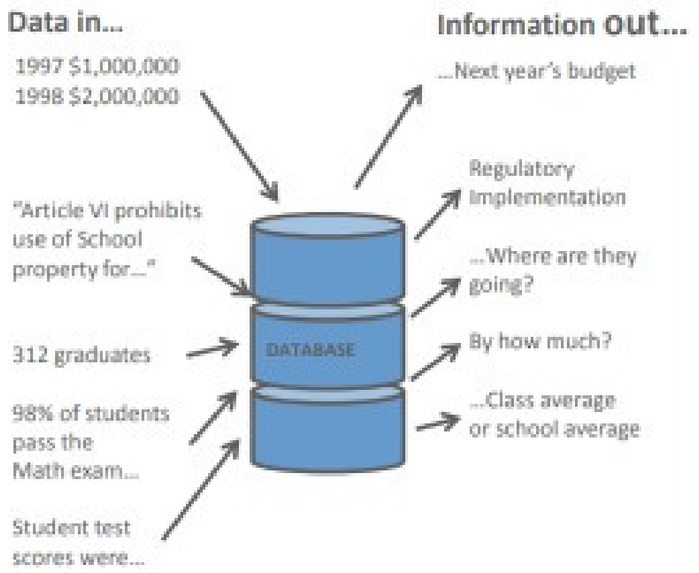
Data vs. Information

- The words "data" and "information" are often used as if they are synonyms. – Nevertheless, they have different meanings.
- Data: Raw or unprocessed material
- Information: knowledge, intelligence, a particular piece of data with a special meaning or function. – Information is often the result of combining, comparing, analyzing or performing calculations on data.

Data vs. Information

Data vs. Information

- Think about test scores, for example.
- In one class, if every student receives a numbered score, the scores can be calculated to determine a class average.
- The class averages can be calculated to determine the school average.



Power Learn Project

Database Design

You are live with Gerald Macherechedze

What is a Database?

- A database is a centralized and structured set of data stored on a computer system.
- It provides facilities for retrieving, adding, modifying, and deleting the data when required.
- It also provides facilities for transforming retrieved data into useful information.
- A database is usually managed by a Database Administrator (DBA).

Database Pros and Cons

VS

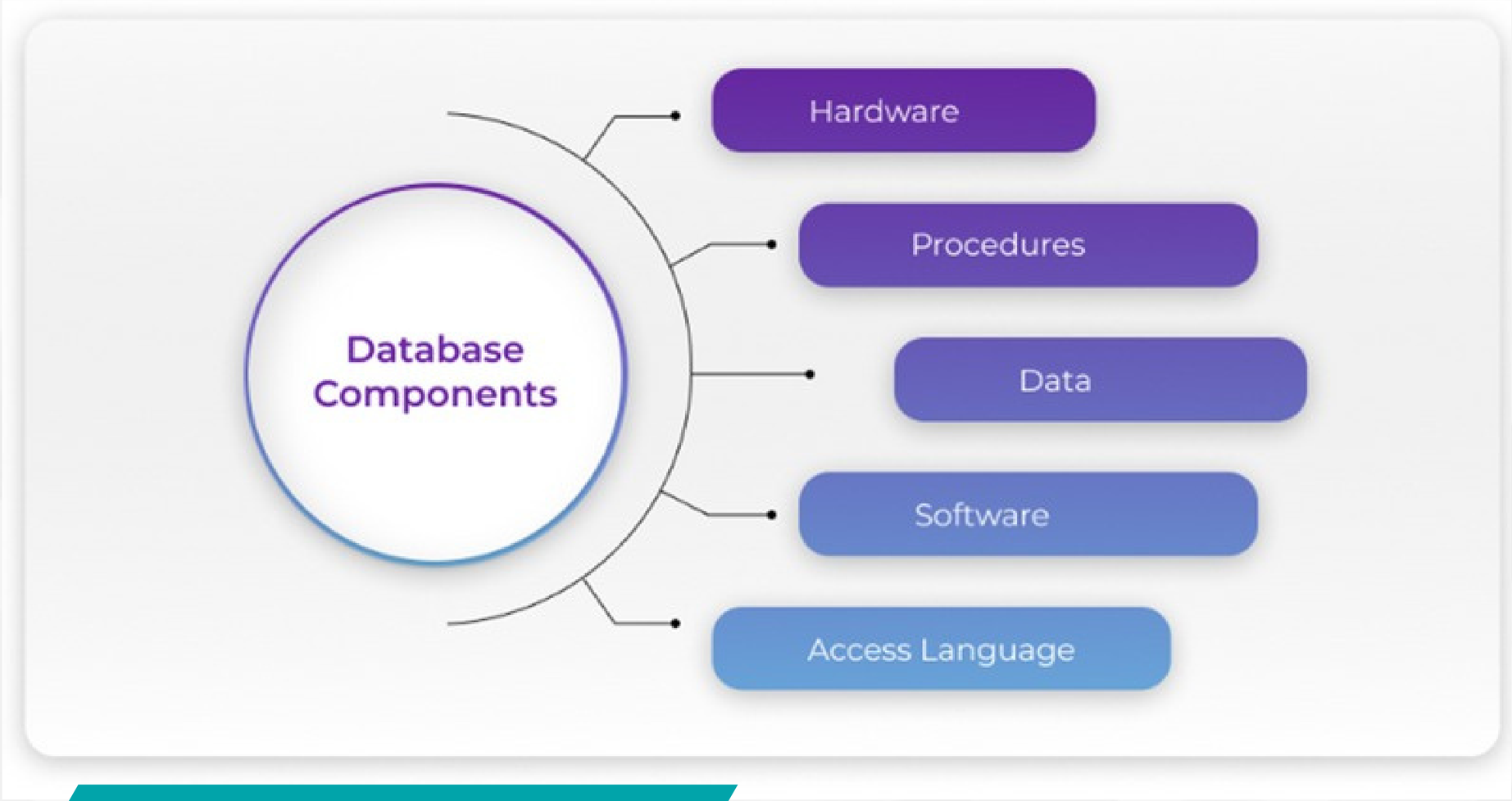
Database Pros

- Improves data sharing and employees' productivity.
- Removes data redundancy.
- Provides greater security and privacy of data.
- Shows you an integrated view of your business.
- Raises your ability to increase profits as helps you understand better your business operations.
- Ensures consistency of data.
- Provides robust backup and recovery.
- Provides a clean and centralized view of your customers and helps you improve your marketing as well as serve better your customers.

Database Cons

- Increased costs. The cost of maintaining DBMS can include advanced hardware, training, licensing, regulatory compliance, skilled employees, etc.
- Complex functionality that requires specific and appropriate skills.
- The failure of the database can have a severe negative impact on operations.

Components of a Database



Garbage In Garbage Out

Power Learn Project

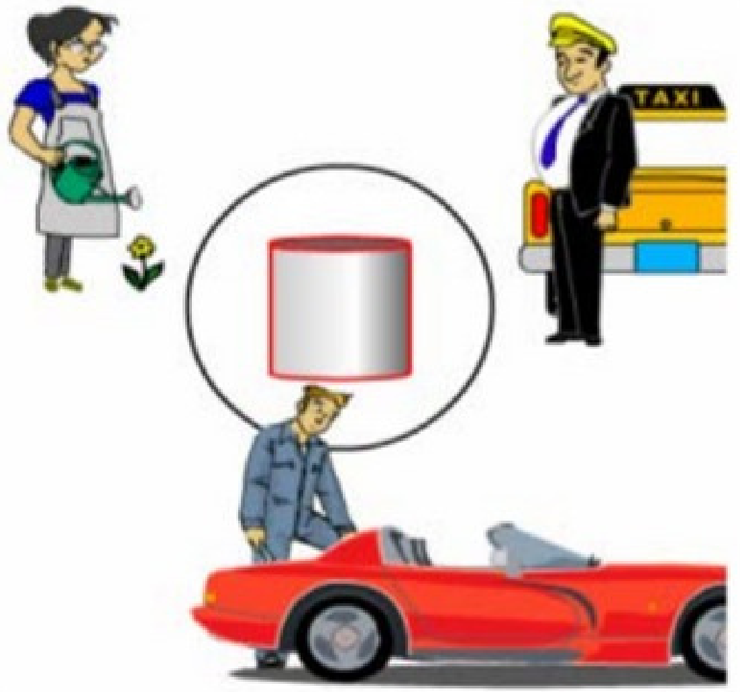
Power Learn Project

Database Design

You are live with Gerald Macherechedze

Question: If You Had One of the Jobs Listed Below, How Might You Use a Database?

- Mechanic in a repair shop
- Taxi driver
- Landscaper



Power Learn Project

Set Up MySQL Workbench

Click Here To See the Installation Guide

Power Learn Project

Database Design

You are live with Gerald Macherechedze