<https://www.youtube.com/watch?v=9Pzj7Aj25lw>

<https://www.w3schools.com/sql/sql_stored_procedures.asp>

<https://www.w3schools.com/sql/sql_dates.asp>

<https://www.udemy.com/course/introduction-to-databases-and-sql-querying/learn/lecture/3250996#overview>

**What is Data?**

In simple words data can be facts related to any object in consideration.

For example, your name, age, height, weight, etc. are some data related to you.

A picture, image, file, pdf etc. can also be considered data.

**What is a Database?**

Database is a systematic collection of data.

Databases support storage and manipulation of data.

Databases make data management easy. Let's discuss few examples.

An online telephone directory would definitely use database to store data pertaining to people, phone numbers, other contact details, etc.

Your electricity service provider is obviously using a database to manage billing, client related issues, to handle fault data, etc.

Let's also consider the Facebook. It needs to store, manipulate and present data related to members, their friends, member activities, messages, advertisements and lot more

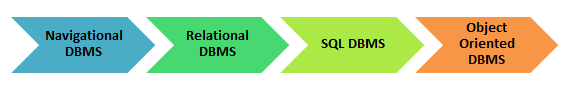
**What is a Database Management System (DBMS)?**

Database Management System (DBMS) is a collection of programs which enables its users to access database, manipulate data, reporting / representation of data.

It also helps to control access to the database.

**Types of DBMS**

Let's see how the DBMS family got evolved with the time. Following diagram shows the evolution of DBMS categories.

[](https://www.guru99.com/images/typesofdbms.png)

There are 4 major types of DBMS. Let's look into them in detail.

* **Hierarchical** - this type of DBMS employs the "parent-child" relationship of storing data. This type of DBMS is rarely used nowadays. Its structure is like a tree with nodes representing records and branches representing fields. The windows registry used in Windows XP is an example of a hierarchical database. Configuration settings are stored as tree structures with nodes.
* **Network DBMS** - this type of DBMS supports many-to many relations. This usually results in complex database structures.  RDM Server is an example of a database management system that implements the network model.
* **Relational DBMS** - this type of DBMS defines database relationships in form of tables, also known as relations. Unlike network DBMS, RDBMS does not support many to many relationships. Relational DBMS usually have pre-defined data types that they can support. This is the most popular DBMS type in the market. Examples of relational database management systems include MySQL, Oracle, and Microsoft SQL Server database.
* **Object Oriented Relation DBMS** - this type supports storage of new data types. The data to be stored is in form of objects. The objects to be stored in the database have attributes (i.e. gender, ager) and methods that define what to do with the data. PostgreSQL is an example of an object-oriented relational DBMS.

**What is SQL?**

SQL stands for **Structured Query language,** pronounced as "S-Q-L" or sometimes as "See-Quel". SQL is the standard language for dealing with Relational Databases. SQL can be used to insert, search, update and delete database records. SQL can do lots of other operations including optimizing and maintenance of databases. Relational databases like MySQL Database, Oracle, MS SQL server, Sybase, etc. uses SQL.

What is a Stored Procedure?

A stored procedure is a prepared SQL code that you can save, so the code can be reused over and over again.

So if you have an SQL query that you write over and over again, save it as a stored procedure, and then just call it to execute it.

You can also pass parameters to a stored procedure, so that the stored procedure can act based on the parameter value(s) that is passed.

CREATE PROCEDURE SelectAllCustomers  
AS  
SELECT \* FROM Customers  
GO;

Execute the stored procedure above as follows:

Example

EXEC SelectAllCustomers;

Example

CREATE PROCEDURE SelectAllCustomers @City nvarchar(30), @PostalCode nvarchar(10)  
AS  
SELECT \* FROM Customers WHERE City = @City AND PostalCode = @PostalCode  
GO;

Execute the stored procedure above as follows:

Example

EXEC SelectAllCustomers @City = "London", @PostalCode = "WA1 1DP";

Retrieve

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How to access by prudct number

The SQL WHERE Clause

The WHERE clause is used to filter records.

The WHERE clause is used to extract only those records that fulfill a specified condition.

SELECT \* FROM Customers  
WHERE Country='Mexico';

The SQL SELECT DISTINCT Statement

The SELECT DISTINCT statement is used to return only distinct (different) values.

SELECT Country FROM Customers;