

# Universidad Autónoma del Estado de Hidalgo

Escuela Superior Huejutla





Área Académica: Licenciatura En Sistemas  
Computacionales

Tema: Introduction To Database

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Keywords. Database / Concept





- Tema: Introduction To Database

## Abstract

One of the most important elements of an information system is the database, since it is the essential part which will safeguard all transactions that a company makes. For this reason it is important to know the types of databases that currently exist, and some other elements such as a database manager (smbd), and its main functions it performs. And what are the main operations you can perform with a database.

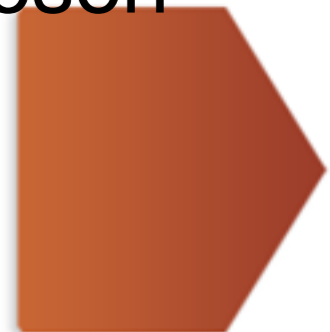
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## What is a Database

- A collection of interrelated data stored together without harmful or unnecessary redundancy. Shakuntala Atre (Technical Base Structure Database Design and Admin.)
- A collection of interrelated files created by a DBMS. James Martin (Organization of Databases)
- It is an organized list of data that provides a way to find information quickly and easily from a reference point chosen  
Alice Y. Tsai H

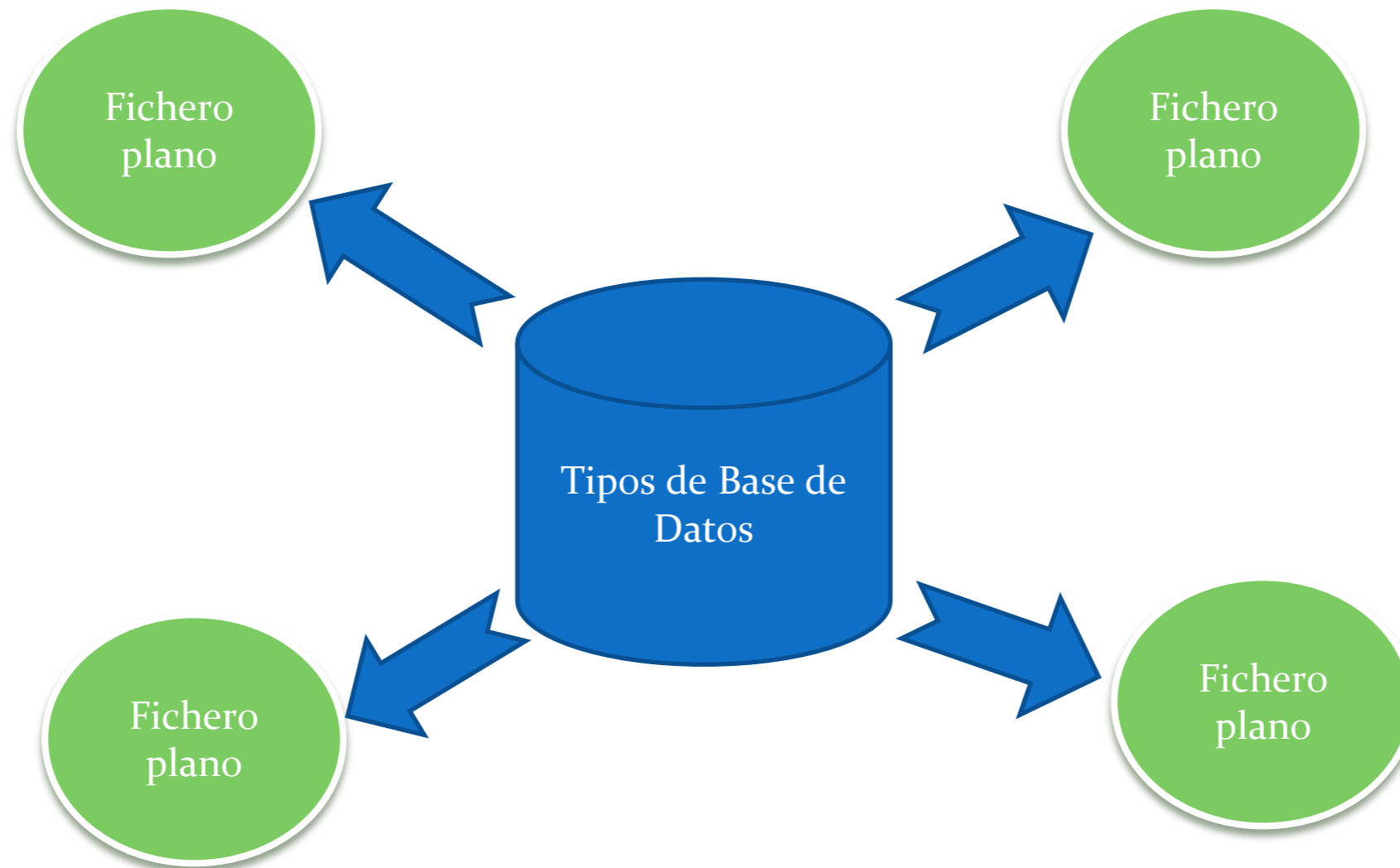




## A DBMS.

- Before I tell you the names of some database drivers, we must first understand what that is. A DBMS (Data Base Manager System) is software whose purpose is to provide a link between the user and a database to facilitate the manipulation of information using primarily a programming language called SQL (Simple Query Language) in words simple.
- The program handles most popular databases are: MySQL, PostgreSQL and SQL-Server Oracle. There are many more but I mention these because they are more stable, especially Oracle, but this is not free, you need to pay a license, which does not happen with MySQL and PostgreSQL.







# MANAGEMENT SYSTEM DATABASE ( D B M S )

## Key Features:

- ✓ Create and organize the database
- ✓ Establish and manage the access paths BD
- ✓ Manage the data according to user requests
- ✓ Manage the integrity and data security
- ✓ Record the use of data bases.





## Database system (application)

It is the result of coding created in a DBMS and a database created in the same DBMS). This application will manage and organize a series of data. For example, we use SQL-Server (which is a DBMS) to bring the management (administration) of cards of items from our store by entering, modifying, updating, removing printer reports, etc..

We can for example make queries such as what item has been sold more this month? What customers buy a particular item? What is the gain of the month? and so on.







## Objectives of Data Base Systems

The database systems are designed to handle large amounts of information. For this system is useful when you retrieve the information stored and there are no errors in either the storage or recovery, you must meet certain requirements at the time of its design, among which are:

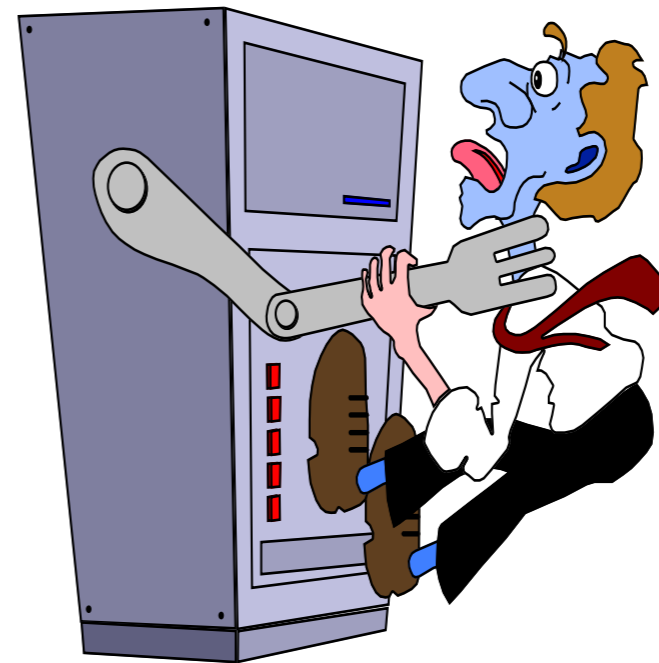
Avoid redundancy, preserve the integrity, preserve the independence of the data, maintain security, concurrent access





## • PROBLEMS OF A FILE SYSTEM

- ☠ Redundancy and inconsistency of data
- ☠ Difficulty in accessing data
- ☠ Isolation of the data
- ☠ Concurrent access anomalies
- ☠ Integrity problems
- ☠ Security Issues





- **Systems Languages Database Drivers**

In common programming languages, declarations and executable statements are all parts of speech, however, in the world of databases, it is normal to separate the functions into two separate languages (DDL and DML).

The reason is this: In an ordinary programming language, variables and data are available only during the execution of the program, change in a system database, the data must exist forever, and must be defined for all processes.





The conceptual level is specified in a language that is part of the DBMS, called Leguaje Data Definition (DDL Data Definition Language)

which allows to describe the different types of entities (tables, views, etc..), relationships and constraints between them and therefore the DDL is used in the design of the database and also when the design is modified but never used to get or modify data.





The DDL is the part that varies from one DBMS to another, and that has to do with how data are organized internally and therefore, each system does in one way or another.

Among the most common instructions used by the DBMS are: Create Table, Not Null, Primary Key, Unique, among others. The DDL usually have two subsets of instructions





# Data Definition Language

(DDL)

# Data Manipulation Language

(DML)

DATA HANDLING BY WANT TO SAY:

recovery  
insertion  
elimination  
modification





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