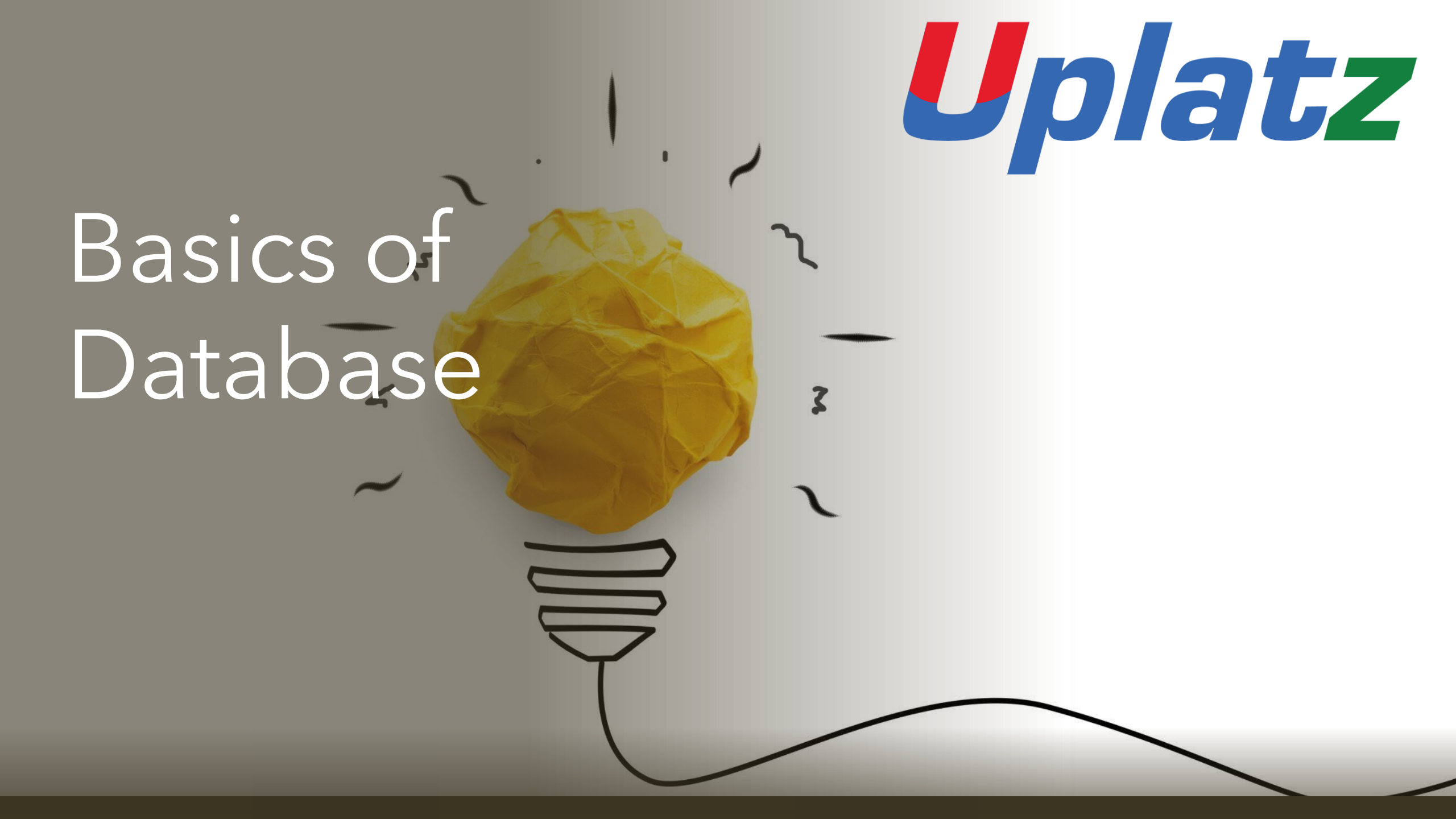
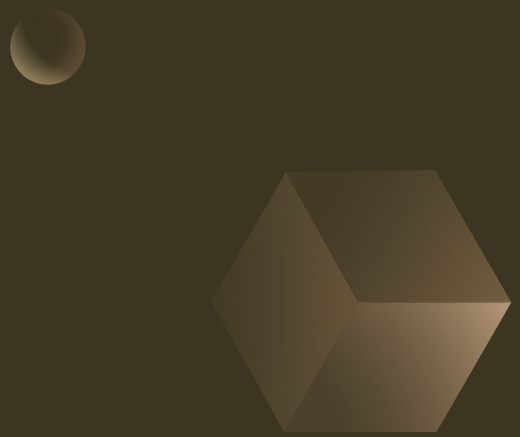
Basics of Database



Uplatz

Overview



- What is a database?
- Purpose of database?
- Types of Database
- Things you can do with RDBMS
- Data Models
- Basic terminologies

Uplatz

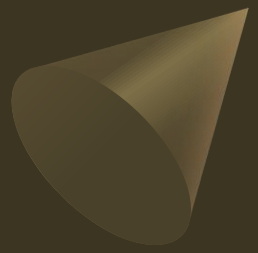
What is a database?

Database is a collection of organized data, information and records.

It contains the information about one enterprise. It maintains any information that may be necessary to the decision-making process involved in the management of that organization.

Advantages of DBMS

- The advantages provided by a DBMS are:
  - Reduced redundancy
  - Controlled data inconsistency
  - Shared data
  - Standardized data
  - Secured data
  - Integrated data



Purpose of Database

Database is information that a person needs in his personal, business, social life. The power and purpose of information is not only in collecting and finding them but more importantly in using them.

In a typical file system, it become very tedious to read, write, search, manipulate or update records.

Kinds of Database

STRUCTURED DATABASE

It is also called the structured data in which a record or file of information arranged in uniform format. These databases are usually storage of information with similar entries such as a list of persons born in a country, a medical database of patients' data, an inventory database of a company and many others.

FREE-FORM DATABASE

It is a loose collection of information, such as those you will find on the world wide web. A collection of your documents in the computer made from several programs can be considered as free-form database.

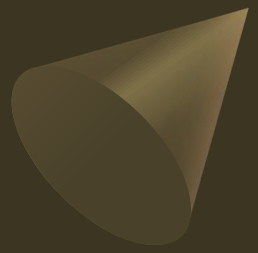
Types of Databases

OPERATIONAL DATABASE

It is a dynamic database that is used by any organization in its day-to-day operation. They are used to collect data, maintain, modify, and delete data. Also known as transactional database.

ANALYTICAL DATABASE

It is a static database, where data is rarely modified. This database is often used to store and track historical data to make long term projections and analysis. More referenced in big data domain.



Things you can do with RDBMS

Create a database

Information storage

Information retrieval

Information management

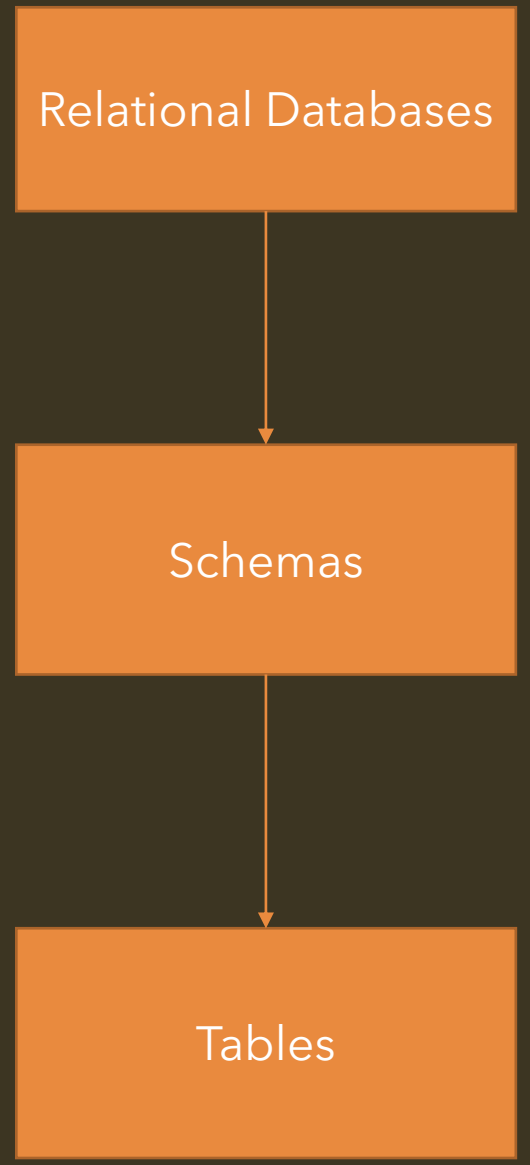
Information analysis

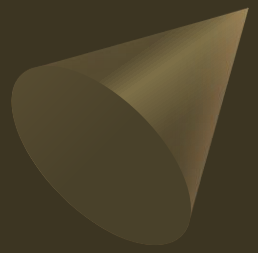
Print and share information

Relational data collected at one place

Individual Schemas created in one database

Different views and tables are created in one or various schemas based on rights given



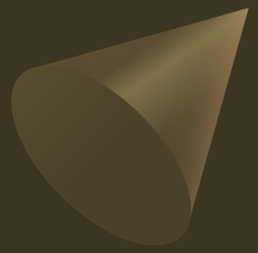


Data

It is a number or value found and stored in the database. Data is static because it remains the same until it is modified by a process.

Information

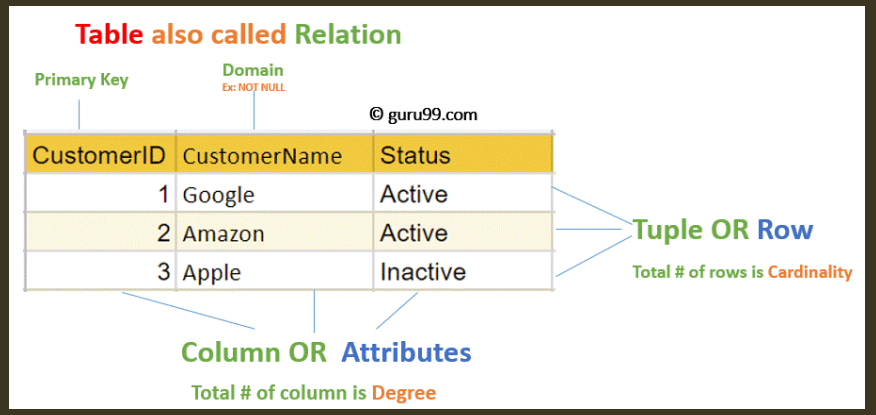
It is a data that has been processed thereby making it relevant and meaningful to the person viewing it. Information is dynamic because it changes relative to the data stored in the database and it could be processed in many ways.



Null handling

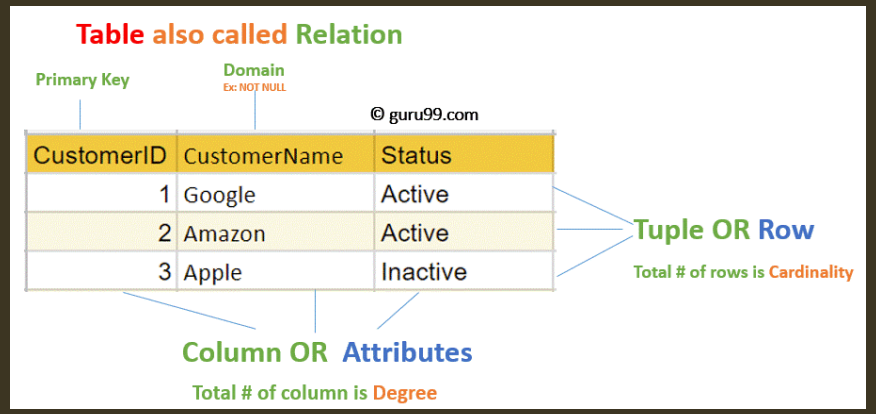
It is used to represent a value that is unknown or missing. A null value is neither a zero nor a blank.

Table

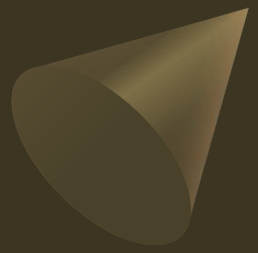


It is the main structure in the relational database. It is composed of attributes (fields) and domain (records). A table almost always represents a subject that can be an object (person, place or thing) or an event.

Record

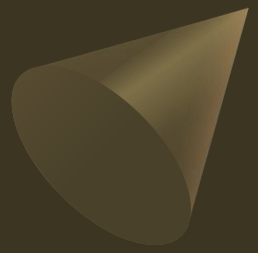


It refers to a specific person, place, thing or event. Record is also known as the “tuple” in the relational database terminology. It pertains to structure in the database table representing a unique instance of a subject.



View

It is also known as a virtual table. It is called a virtual table since it does not hold data on it own; rather it gets data from the table which it is based. And since it comes from other table it is composed of several fields coming from one or more data.



Relationship

They exist when two or more tables have connection or association.