

## What is Database?

1. A database is a collection of data organized in a manner that allows access, retrieval and use of data.
2. A database is a collection of information that is organized so that it can easily be accessed, managed, and updated.
3. A database is an organized collection of data.

## Meaning and Definition of DBMS

- DBMS stands for DataBase Management System
- DataBase Management System is defined as an application software that manipulates the data in the database.

### Examples of DBMS Packages

They include:

Dbase, Rbase, MS Access, Oracle, Paradox, MYSQL Server, SyBase, FOXPRO, IDMS, System 2000, Ingres, Postgres, NoSQL, etc.

## Database Terminologies

1. **Field:** Field is a single piece of information about an object. A is also defined as a space that holds specific parts of data from a set or a record. Examples of fields are NAME, ADDRESS, QUANTITY, AGE, etc.

**Record:** A record is a collection of fields. It is the collection of information about a particular element, person or object.

3. **File:** This is the collection of a related record

4. **Primary Key:** a field in a table whose value uniquely identifies each record in the table. Examples of fields that can serve as primary keys include; NIN, Driving License number, Bank account number, Admission number, Fingerprint, BVN, etc

The screenshot shows the Microsoft Access interface with a table named 'Table1'. The table has the following data:

S/N	FIRST NAME	LAST NAME	RELIGION	GENDER	DATE OF BIR	ADMISSION	Click to Add
2	JOSEPH	OKOLO	CHRISTIAN	MALE	31/12/2021	STIVI/0222	
4	SAMUEL	OJIMA	CHRISTIAN	MALE	28/3/1990	STM/093	
5	FATIMA	OGUNSORO	MUSLIM	FEMALE	1/4/2002	STM/044	
6	MICHAEL	TERDOO	CHRISTIAN	MALE	05/4/1991	STM/059	
7	FAITH	OKOPI	CHRISTIAN	FEMALE	09/5/2006	STM/034	

Labels in the image point to:

- Field:** Points to the 'ADMISSION' column header.
- Primary Key:** Points to the 'ADMISSION' column header.
- Record:** Points to the entire row for Samuel Ojima.
- File:** Points to the table name 'Table1' in the left pane.

## Forms of Database

### **1. Hierarchical Database**

in this form of database, data are arranged or structured in form of a tree. It can also be defined as a design that uses a one-to-many relationship for data elements. The data is stored as records are connected through links

### **2. Network Model**

This type of database allows the modelling of many-to-many relationships of data. In the network model of a database, a record can have multiple parents, making the system more flexible compared to the strict single parents of the hierarchical database.

### **3. Relational Model**

A relational database presents information in tables with rows and columns. Records are arranged in rows while fields are arranged in columns. A relational database is the most common type of database structure. It is used by most microcomputers in Database Management System (DBMS) packages.

## Starting a DBMS (MS Access)

To start the database in Microsoft Access, you do the following:

Step1: Click on the start button on the taskbar

Step 2: Move to all Programs,

Step 3: Click on MS Access

## Opening an Existing Database

To open an existing Database, do the following:

Step 1: Click on the file menu, then click the open button

Step 2: Click on the file to be opened from the dialogue box.

Step 3: Then click on open or press enter on your keyboard.