**Introduction To DSA (Theory): *-***

->CPU stands for “Central Processing Unit” and is used to solve/execute the Instruction.

-> Main memory is “Temporary Memory”.

->Documents are stored in hard-disk and is called “Data Files”.

**Memory Theory: -**

Suppose that in hard disk Microsoft excel and random file is present. To make sure that excel will work, we will move the excel into main – memory and CPU will start executing it. Suppose that excel need that random file for its working, so that random file which was stored in hard disk will also be called into main memory, and CPU will start performing different task on that file. Every application deal with some data.

Excel

Random File

Data

Excel

**Definition of Data structure: -**

In Computer Data structure is the core of every program. Every program uses data structure in one way or another. Data structure is defined as “Organizing of data into main memory for effective solution” is

“Data structure”.

**Definition of Data Base && Big Data: -**

When data is big, it will be organized in database or relational data. It is generally stored on Hard disk. When a computer pulls a data from hard -disk, data structure will be required for performing operations on that pulled data. Large data can be organized into 2 types: -

->Operational Data

->Historical Data

“**Historical Data** is basically the data that have been not used for ages. Generally Historical Data can be stored on array of disks. Collection of arrays of disks of data is” “Data warehouse”.

**Big Data** is defined as “Storing and utilizing that very large data is Big – Data”