**Important points:**

* A data structure can be arranged in memory in several ways.
* Array is a static data structure. The size of array cannot be changed during the program execution.
* In array, the data access speed becomes slow as the size of the array increases.

To overcome limitations (last two points), linked lists are used.

**Linked Lists**

* Data is arranged into records. Each record is called a **node.**
* Data item may be stored anywhere in the memory.
* A special item, called **pointer**, is added to each record.

It is used to contain a link to the next record.

* There are **two** types of linked lists:

1. Single-linked lists or One-way lists
2. Double-linked lists or Two-way lists

**Pointer**

* A pointer is a **variable** that is used to store **memory address** of another variable. Also called **pointer variable**.
* The **data type** of the pointer and of the variable whose address

It stores must be same.

* Pointers always have the same **memory size.**

This property of pointers is used to perform operations on data

in the memory in a **uniform manner**.

**Linked Storage:**

The use of pointers to link elements of a data structure implies

that the elements need not be physical adjacent in the memory.

They can be stored anywhere in the memory but they logically

Remain adjacent. This type of storage is called **Linked Storage.**

**Single Linked List:**

* **Linear** collection of data elements
* List can be visited from beginning towards end i.e. only in one

direction. That’s why Single Linked lists are called one way list

or one way chain.

* Consists of at least **two** fields.
* **First Field (Data Field)**  🡪 Data

More than one data fields can be used in a node to store information.

* **Second Field (Linked Field or Pointer Field)** 🡪 pointer or link to

the next node in the list.

The linked field of the **last node** contains a **Null Value.**

The null pointer field indicates that pointer does not point to any other node.

The single linked list that has no node is called **empty list**. It has a value **NULL.**