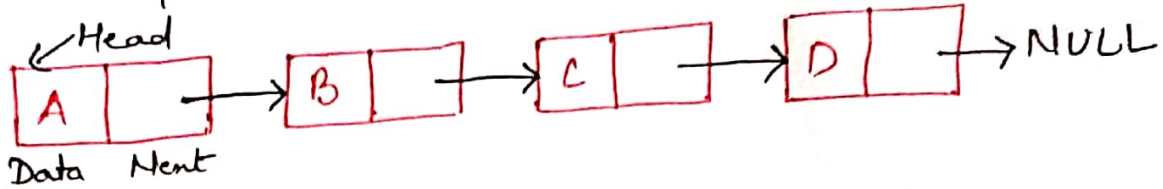


* Linked list:- linked list is a linear data structure like array. elements of an linked list are not stored in contiguous location as array. It uses the pointer to connect all elements of list. (MA 9)



→ Disadvantage of Array with respect to linked list:

- ① Size of the array is fixed. No change possible.
- ② Insertion / Deletion is difficult task in Array.

→ Advantage of linked list over array:

- ① Dynamic size
- ② Ease of insertion / deletion

| | | |
|-----|---|------|
| 100 | a | 106 |
| 102 | | |
| 104 | | |
| 106 | m | 110 |
| 108 | | |
| 110 | n | 114 |
| 112 | | |
| 114 | d | 120 |
| 116 | | |
| 118 | e | NULL |
| 120 | | |

→ Drawback of linked list over array:

- ① Random access is not allowed. Sequential access is possible so binary search is not efficient.
- ② Extra Memory space for every pointer required.
- ③ Locality of Reference not worked.

Representation of linked list: A linked list is represented by a pointer to the first node of the linked list. The first node is called Head. If the linked list is empty, then the value of the head is "NULL".

→ Each node in a list consists of at least two parts:

- ① Data
- ② Pointer (or Reference) to the next node.