

Introduction to Linked Lists

Linked lists are similar to arrays (Linear data structures)

7	10	11	12	18	22
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 \Rightarrow In Arrays elements are stored in contiguous memory locations

7	•
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 \rightarrow

10	•
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 \rightarrow

11	•
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 \rightarrow NULL \Rightarrow In linked lists, elements are stored in non contiguous memory locations

data \swarrow Pointer to next element

Why Linked Lists?

Memory and the capacity of an array remains fixed.

In case of linked lists, we can keep adding and removing elements without any capacity constraints

Drawbacks of Linked Lists

- \rightarrow Extra memory space for pointers is required (for every node 1 pointer is needed)
- \rightarrow Random access not allowed as elements are not stored in contiguous memory locations.

Implementation

Linked list can be implemented using a structure in C language

```
struct Node {  
    int data;  
    struct Node* next;  
};
```

\Rightarrow Self referencing structure