

Linked List:

- **Terminologies:**

- o Linked list is a linear data structure that contains multiple records linked to each other.
- o Each item in the list is called as “Node”.
- o Each node contains data and pointer (address) to the next node.
- o Typically linked lists are implemented as self-referential structure. The structure contains pointer of the same type to hold address of next node.

- **Difference in array and linked list**

	Array	Linked List
1.	Array cannot grow or shrink dynamically (realloc() is not efficient).	Linked list can grow/shrink dynamically.
2.	Array has contiguous memory. Hence random access is possible.	Nodes are not in contiguous memory. Hence only sequential access is allowed.
3.	Arrays do not have memory overheads.	Linked lists have memory overheads e.g. each node contains address of 'next' node.
4.	Insert/Delete at middle position need to shift remaining elements. Hence will be slower.	Insert/Delete at middle position need to modify links (next/prev pointers). Hence will be faster.
5.	To deal to fixed number of elements and frequent random access, arrays are better.	To deal to dynamic number of elements and frequent insertion/deletion operators, linked lists are better.