1. What is Linked list?
2. Linked list is a data structure which stores data in a memory in a linear manner and it has nodes, each node hold both the data and pointer(address of next element). It means the elements in a linked list are linked using pointers.
3. It will store data in contiguous fashion
4. Eg : linked list

Head pointer



Null indicates last node



1000 🡪 2 | 3000 🡪 3|4000 🡪 4|Null



Data

1. What are the different forms of linked list?

There are 4 different types of linked lists:

* 1. Singly linked lists

->It is a unidirectional linked list, so nodes can be navigated in forward direction only(from head node to last node).

* 1. Doubly linked lists

->It is bidirectional linked list, so nodes can be navigated in both the ways forward and backward.

* 1. Circular linked lists

->last node contains address of the first node as next and the first node has a address of the last node as previous.

* 1. Circular doubly linked lists

->It is a combination of a doubly linked list and a circular linked list.

3. What is a linked list’s purpose?

Linked lists are more efficient in insertion and deletion operations.

Array is also a data structure which can store the data in contiguous fashion and in a dynamic array if we want to insert any element in particular index then it will be more expensive because whenever we are inserting one extra element in a dynamic array then it will create a new array by doubling the size of original array and then it will copy the elements into it and later it will shift the elements according to the insertion index, it is a very expensive and it is taking more space which is not good.

But by using linked list we can easily insert element at beginning of the linked list or at the ending or at any particular index.

1. What are the advantages of linked lists over arrays?
2. Linked lists are more efficient in insertion and deletion operation than arrays.
3. Linked lists occupy less space compare to arrays.
4. And for insertion process, time complexity of linked lists:

Best case scenario: O(1)

Worst case scenario:O(n)

1. What is the purpose of a circular linked list?

In a circular linked list, last node contains address of the first node as next and the first node has a address of the last node as previous.

🡪We can use circular linked lists in resource pooling, if many users want to use shared resource, we can allocate that resource using circular linked list.



🡪It can be used widely in applications where tasks are to be repeated or in time sharing applications. Circular list can keep a track of tasks which have been performed and which has to be performed, once the specific task is done it jumps to next one and when wholse sets of tasks completed it again jumps back to first task.

1. How will you explain Circular linked list?

Circular linked list is a one type of linked list which consists of sequence of elements in which every element has a link to next element in the sequence and last element has a link to the first element.

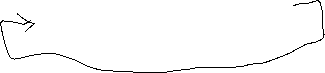
Head pointer



1000 🡪 2 | 3000 🡪 3|4000 🡪 4|1000



1000 3000 4000



Node address.