Top 17 Linked List Interview Questions & Answers

1) Mention what is Linked lists?

A linked list is a data structure that can store a collection of items. In other words, linked lists can be utilized to store several objects of the same type. Each unit or element of the list is referred as a node. Each node has its own data and the address of the next node. It is like a chain. Linked Lists are used to create graph and trees.

2) What type of memory allocation is referred for Linked lists?

Dynamic memory allocation is referred for Linked lists.

3) Mention what is traversal in linked lists?

Term Traversal is used to refer the operation of processing each element in the list.

4) Describe what is Node in link list? And name the types of Linked Lists?

Together (data + link) is referred as the Node.

Types of Linked Lists are,

- Singly Linked List
- Doubly Linked List
- Multiply Linked List
- Circular Linked List

5) Mention what is Singly Linked list?

Singly Linked list are a type of data structure. In a singly linked list, each node in the list stores the contents of the node and a reference or pointer to the next node in the list. It does not store

any reference or pointer to the previous node.
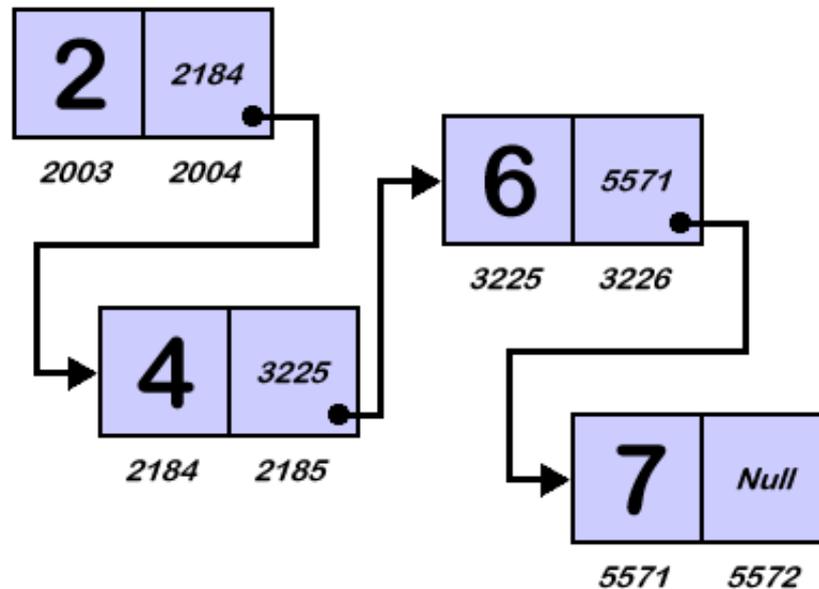
6) Mention what is the difference between Linear Array and Linked List?

The difference between Linear Array and Linked List are shown below,

Linear Array
- Deletion and Insertions are difficult.
- For insertion and deletion, it needs movements

- In it space is wasted
- It is expensive
- It cannot be reduced or extended according to requirements
- To avail each element same amount of time is required.
- In consecutive memory locations elements are stored.
- We can reach there directly if we have to go to a particular element

Linked List
- Deletion and Insertions can be done easily.
- For insertion and deletion, it does not require movement of nodes
- In it space is not wasted
- It is not expensive
- It can be reduced or extended according to requirements
- To avail each element different amount of time is required.

- Elements may or may not be stored in consecutive memory locations
- To reach a particular node, you need to go through all those nodes that come before that node.

7) Mention what are the applications of Linked Lists?

Applications of Linked Lists are,

- Linked lists are used to implement queues, stacks, graphs, etc.
- In Linked Lists you don't need to know the size in advance.
- Linked lists let you insert elements at the beginning and end of the list.

8) What does the dummy header in linked list contain?

In linked list, the dummy header contains the first record of the actual data

9) Mention the steps to insert data at the starting of a singly linked list?

Steps to insert data at the starting of a singly linked list include,

- Create a new node
- Insert new node by allocating the head pointer to the new node next pointer
- Updating the head pointer to the point the new node.

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10) Mention what is the difference between singly and doubly linked lists?

A doubly linked list nodes contain three fields:

- An integer value and
- Two links to other nodes
- one to point to the previous node and
- other to point to the next node.

Whereas a singly linked list contains points only to the next node.

11) Mention what are the applications that use Linked lists?

Both queues and stacks are often implemented using linked lists. Other applications are list, binary tree, skip, unrolled linked list, hash table, etc.

12) Explain how to add an item to the beginning of the list?

To add an item to the beginning of the list, you have to do the following:

- Create a new item and set its value
- Link the new item to point to the head of the list
- Set the head of the list to be our new item

If you are using a function to do this operation, you need to alter the head variable. To do this,

you must pass a pointer to the pointer variable (a double pointer). so you will be able to modify the pointer itself.

13) Mention what is the biggest advantage of linked lists?

The biggest benefit of linked lists is that you do not specify a fixed size for your list. The more elements you add to the chain, the bigger the chain gets.

14) Mention how to delete first node from singly linked list?

To delete first node from singly linked list

- Store Current Start in Another Temporary Pointer
- Move Start Pointer One position Ahead
- Delete temp i.e Previous Starting Node as we have Updated Version of Start Pointer

15) Mention how to display Singly Linked List from First to Last?

To display Singly Linked List from First to Last,

- Create a linked list using create().
- You cannot change the address stored inside global variable "start" therefore you have to declare one temporary variable -"temp" of type node
- To traverse from start to end, you should allot address of Starting node in Pointer variable i.e temp.

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If the temp is NULL then you can say that last node is reached.
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16) Mention how to insert a new node in linked list where free node will be available?

To insert a new node in linked list the free node will be available in Avail list.

17) Mention for which header list, you will found the last node contains the null pointer?

For grounded header list you will found the last node contains the null pointer.