Linked List

Arrays ki Limitations

1) Fixed Size

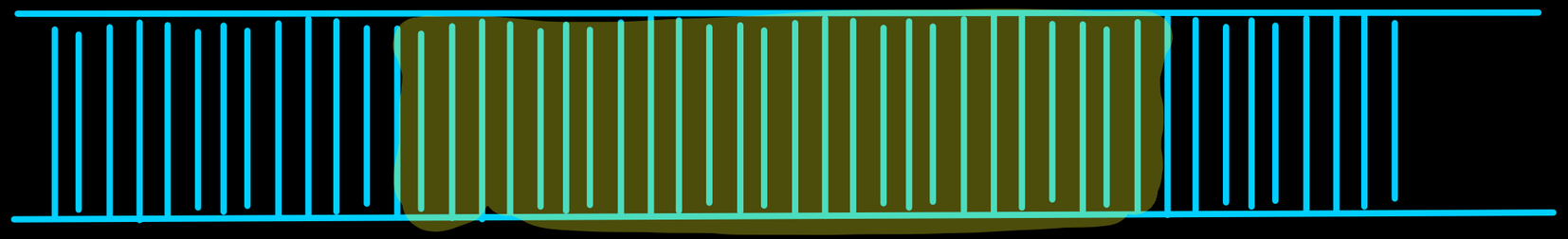
2) Continuous Memory Location

3) Hard to add / delete element in middle

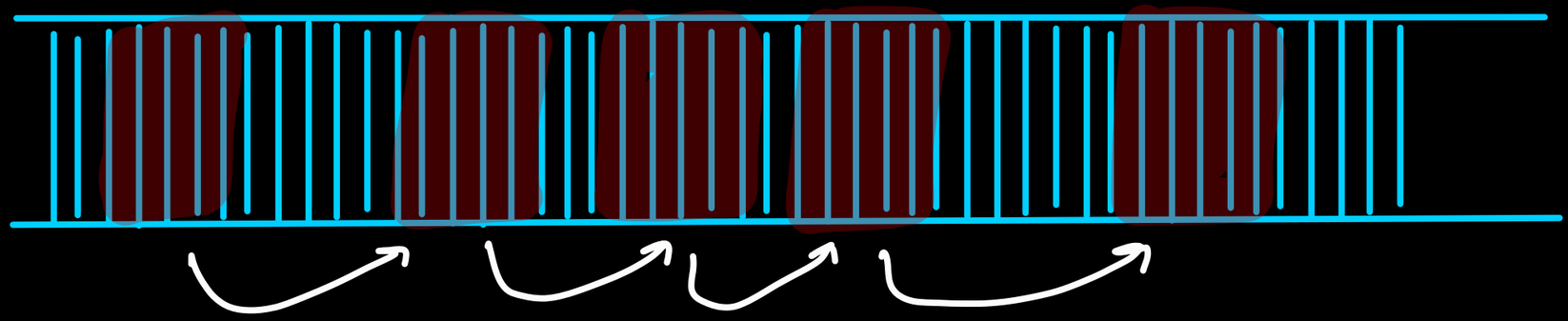
Fayde

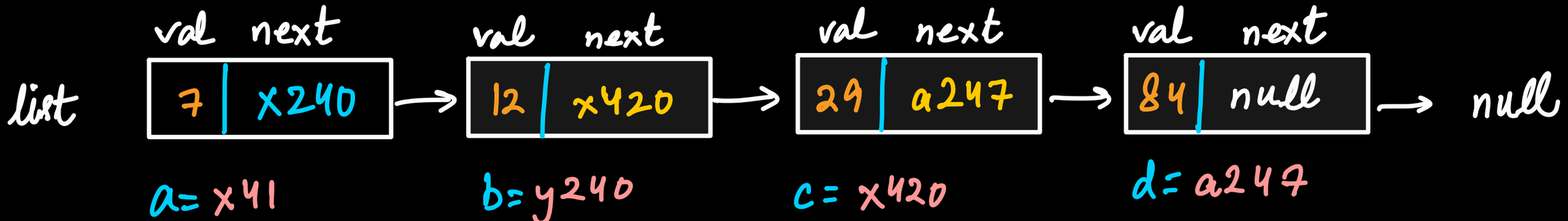
↳ instantly get any element

O(1)



Idea of Linked List

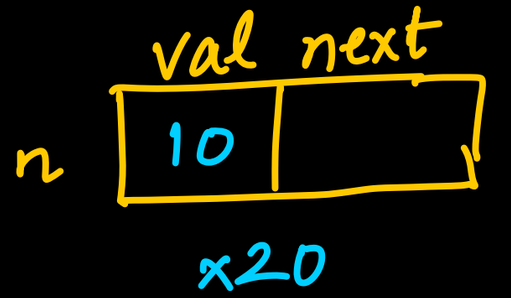




Nodes of a linked list

Creating Linked-List Node

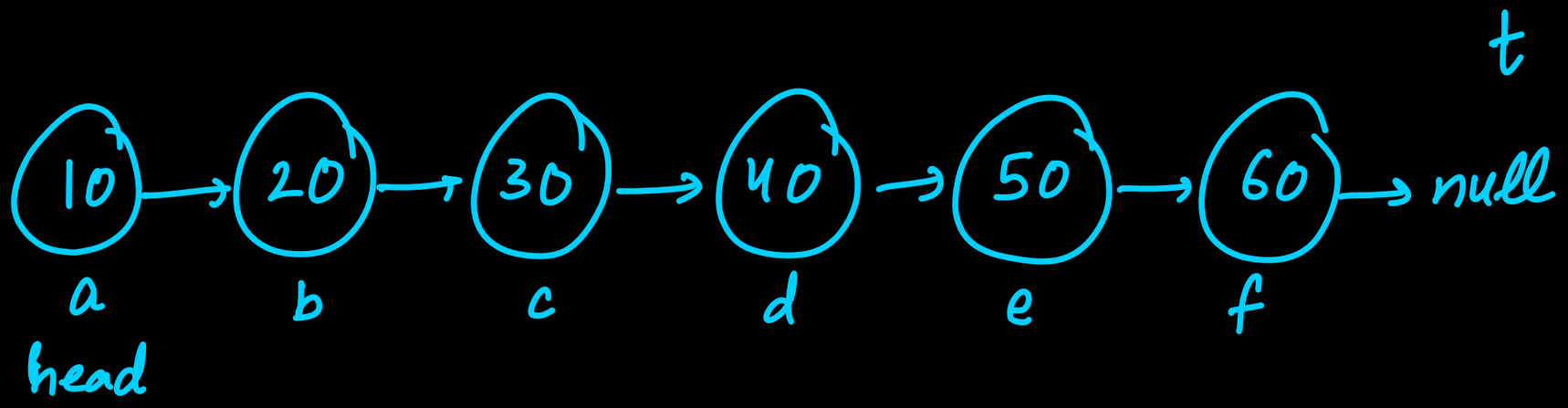
```
class Node {
    int val ;
    Node next;
}
```



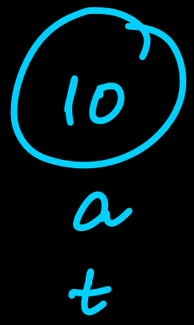

```
Node n = new Node();
n.val = 10;
```

Attaching Nodes

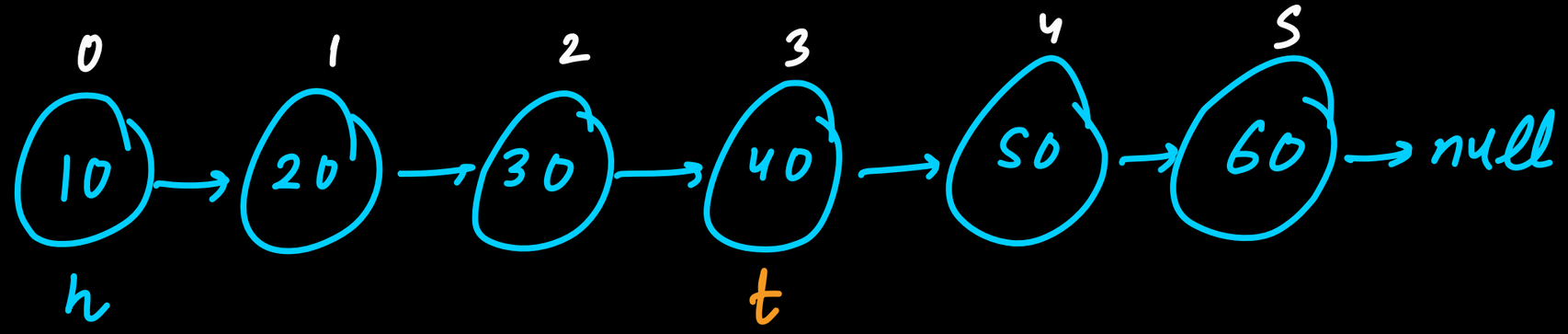
Traverse entire list only with head



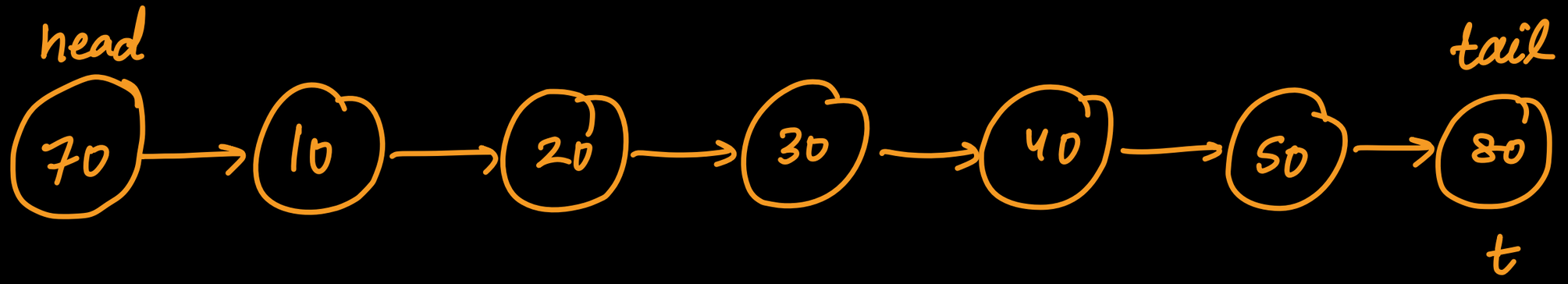

```
Node a = new Node(10);
Node temp = a;
```



Traverse linked list with recursion



Linked List Class

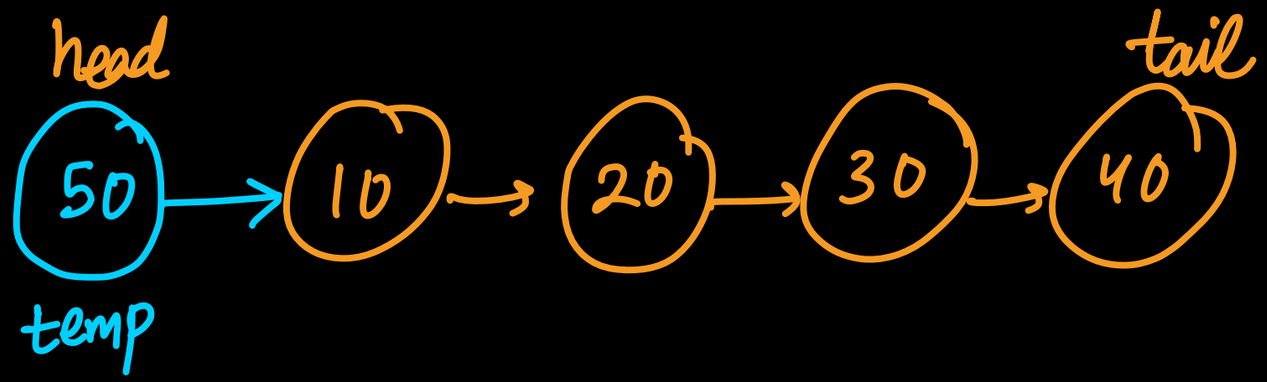



```
Node t = new Node(val);
tail.next = t;
tail = t;
```

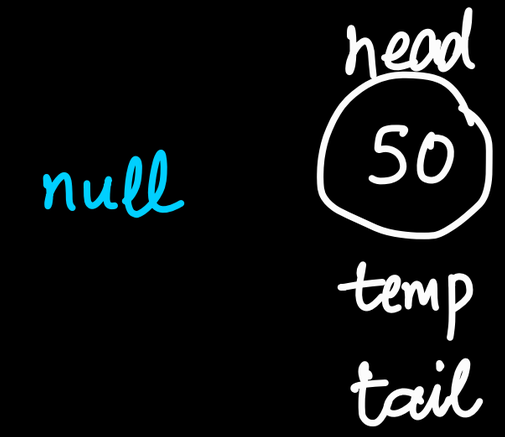
insertAtTail()

display()

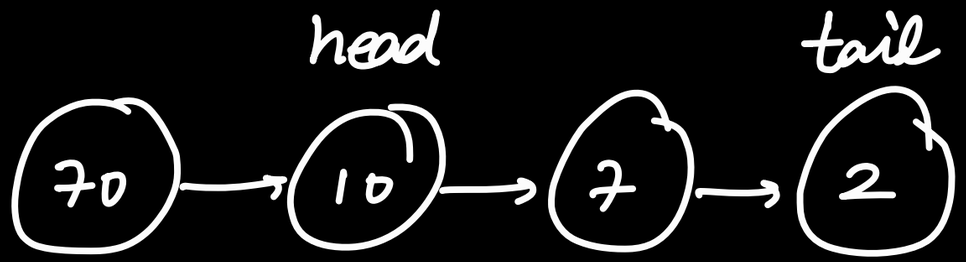
insertAtHead()




```
temp.next = head;
head = temp;
```



deleteAtHead()



head = head.next

0 size