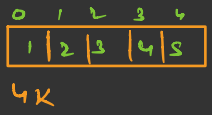
Linked list

```
int arr[] = new int[5]
```

20 bytes



Heap

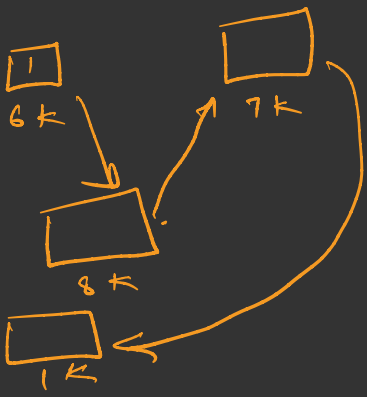
LL was introduced

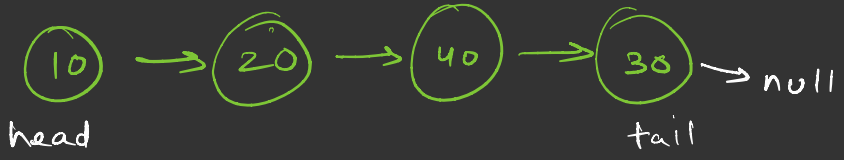
Node

1. data
2. reference to next node

Node

int data
Node next





```
Class LL {
    Node head
    Node tail
    int size
}
```

add

addFirst(int val)

addLast(int val)

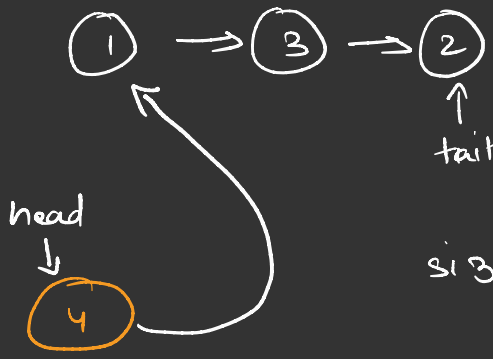
add(int val, int idx)

Remove

get

Set

addFirst(4)

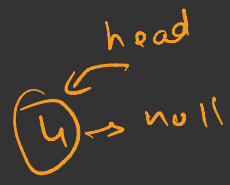


size = 3

1. Create new node
2. point next to head
3. point head to new node
4. increase the size

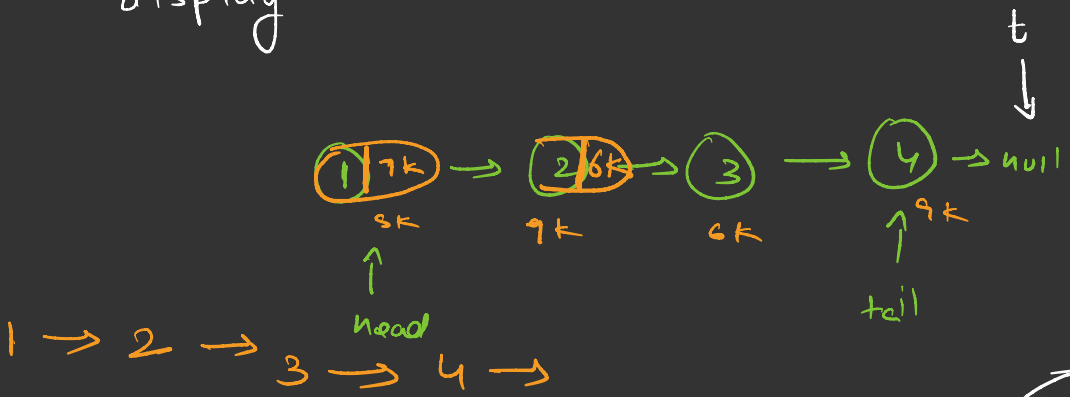
size == 0

head = null
tail = null
size = 0 + 1

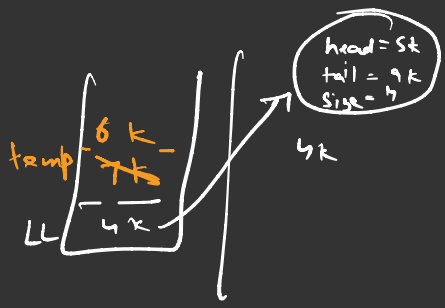


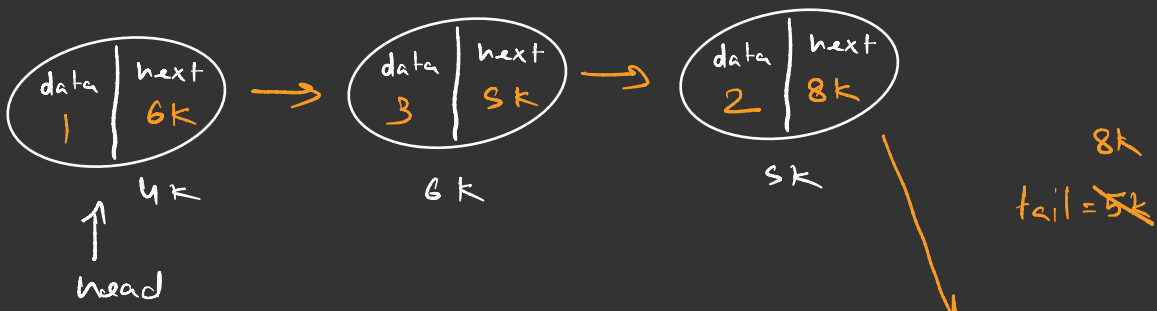
if (tail == null)
tail = n

display

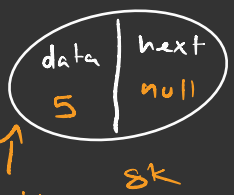



```java
public void display() {
    Node temp = head;
    while(temp != null) {
        System.out.print(temp.data + " ->
        temp = temp.next;
    }
    System.out.println("null");
}
```





addLast(3)



1) Create new node

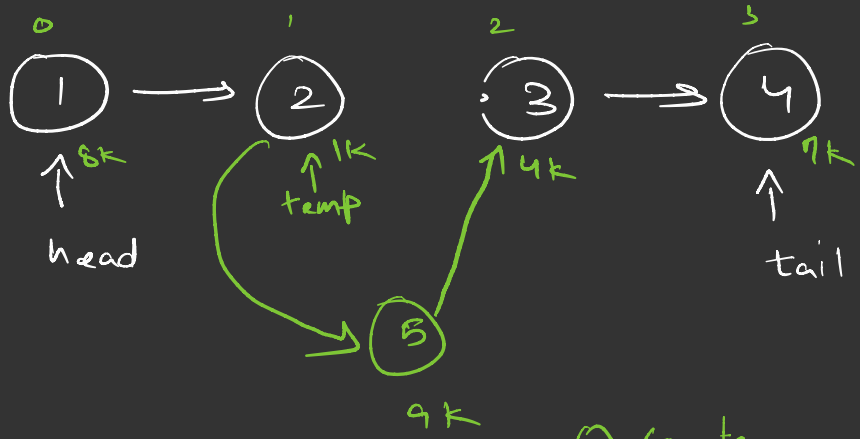
2) tail.next should point to new node (n)

3) tail should point to n

4) Increase size

add(int val, int idx)

add(5, 2)



temp = get(idx - 1)

① Create

② get(idx - 1)

③ n.next = temp.next;

④ temp.next = n

⑤ size ++