

## ① Remove At Index in LinkedList

Hume ek index pass kiya jayega, hume uss index pe pada hua element element uddana hai!

### Special Case

$\therefore (\text{size} == 0) \rightarrow \text{List is empty}$   $\therefore (\text{size} == 1) \rightarrow \text{head} = \text{tail} = \text{null}$

$\text{if}(\text{idx} < 0 \parallel \text{idx} > \text{size}) \rightarrow \text{Invalid argument}$

```
public void removeAt(int idx){
```

```
    if (idx < 0 || idx > size) {
```

```
        Syso("Invalid Argument");
```

```
    } else if (idx == 0) {
```

```
        removeFirst();
```

```
    } else if (idx == size - 1) {
```

```
        removeLast();
```

```
    } else {
```

```
        Node temp = head;
```

```
        for (int i = 0; i < idx - 1; i++) {
```

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

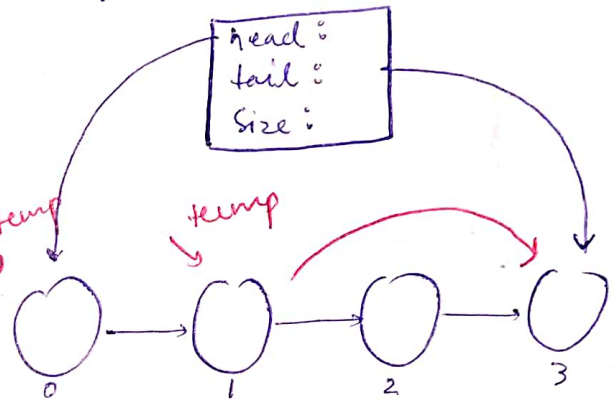
```
        }
```

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

```
        size--;
```

```
    }
```

```
}
```



Agar hume bola gaya ki hume 2<sup>nd</sup> index remove karna hai!

Hum temp ko head pr rakhenge aur fir loop chalenge aur (index-1) tak pauch jayunga!

$\therefore \text{temp.next} = \text{temp.next.next}$

Size ko minus krdenge!

Hum temp ko (idx-1) tak NOTE: laye!  $\rightarrow$  FIR  $\downarrow$

Humne temp ko humare temp ke next ke next pe point kr dia jisse index pe wala element remove hogaya!

Agar (n-1) sidha (n+1) ko point krdega toh humara kam hojayega!

