LAST INDEX OF OCCURRENCE

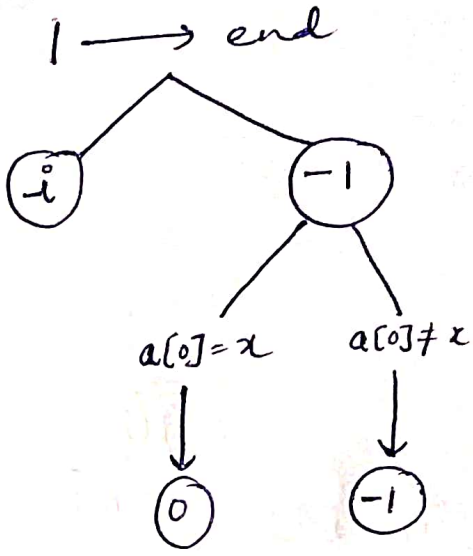
Expectation

lastI (arr, 0, x)
yeh expectation hai ! ki vo 0 se end tak check krey aur (x) ki jo last occurrance mile uska index return krey !

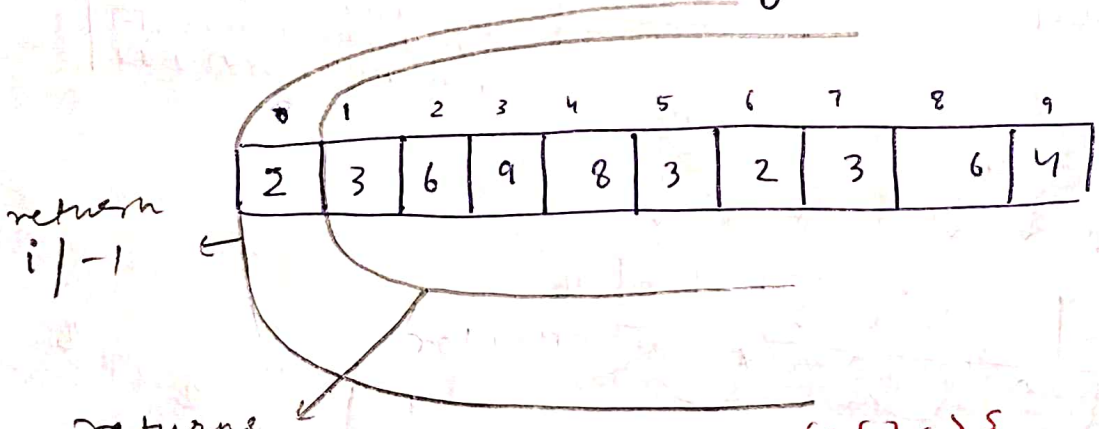
Faith

lastI(arr, 1, x)
1 se leke end tak check krta hai sabko ki vo x ke equal hai ki nahi ! aur jo x ki last occurrance hoti hai uska index return krdeta hai ! Agar nahi milta hai toh (-1) return hoga

Expectation Meet Faith



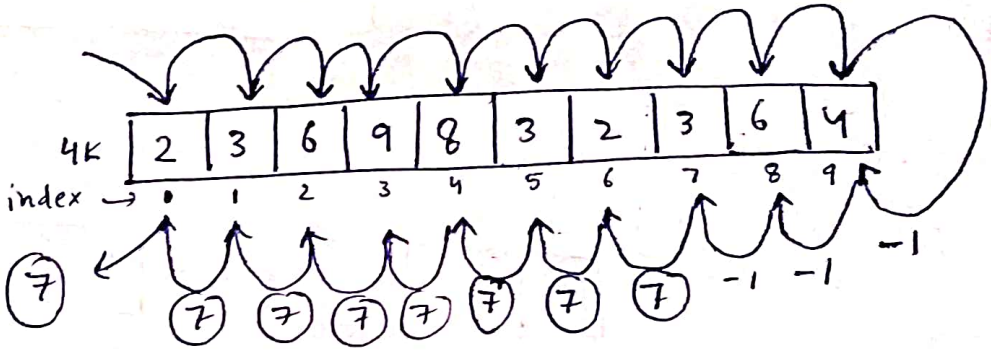
x = 3



returns
i / -1 → occurrance not found
↓
occurrance found

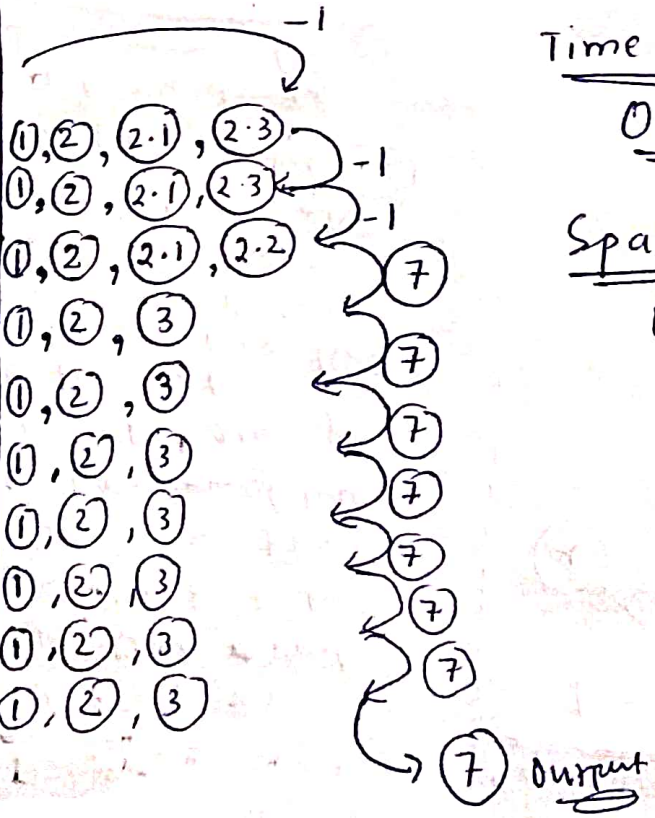
```
psvm(s[] a){
Scanner s = new Scanner(System.in);
int n = s.nextInt();
int [] arr = new int [n];
for(int i=0; i<arr.length; i++) {
   arr[i] = s.nextInt();
}
int x = s.nextInt();
int li = lastIndex(arr, 0, x);
System.out.println(li);
}
```

```
PS int lastIndex(int[] arr, int idx, int x) {
if (idx == arr.length - 1) {
    return -1;
}
int liisa = lastIndex(arr, idx+1, x);   → (1)
if (liisa == -1) {                      → (2)
    if (arr[idx] == x) {                → (2.1)
        return idx;                     → (2.2)
    } else {
        return -1;                      → (2.3)
    }
} else {
    return liisa;                       → (3)
}
}
```



BASE CASE ATTAINED
(-1) return and Base case wipe out

	4K	10	3
X	4K	9	3
X	4K	8	3
	4K	7	3
	4K	6	3
	4K	5	3
	4K	4	3
	4K	3	3
	4K	2	3
	4K	1	3
	4K	0	3
	arr	idx	x



Time complexity:

$O(n)$

Space complexity:

$O(1)$