First and Last Position of an Element In Sorted Array

Easy   ⚡ **40/40**   Average time to solve is 15m

744 upvotes   **Asked in companies**

Problem statement   **Send feedback**

You have been given a sorted array/list **'arr'** consisting of **'n'** elements. You are also given an integer **'k'**.

Now, your task is to find the first and last occurrence of 'k' in 'arr'.

Note :

1. If 'k' is not present in the array, then the first and the last occurrence will be -1.
2. 'arr' may contain duplicate elements.

Example:

```
Input: 'arr' = [0,1,1,5] , 'k' = 1

Output: 1 2

Explanation:
If 'arr' = [0, 1, 1, 5] and 'k' = 1, then the first and last occurrence of 1 will be 1(0 -
indexed) and 2.
```

Detailed explanation (Input/output format, Notes, Images)

Sample Input 1:

```
8 2
0 0 1 1 2 2 2 2
```

Sample output 1:

```
4 7
```

Explanation of Sample output 1:

For this testcase the first occurrence of 2 in at index 4 and last occurrence is at index 7.

Sample Input 2:

```
4 2
1 3 3 5
```

Sample output 2:

-1 -1

Expected Time Complexity:

Try to do this in O(log(n)).

Constraints:

1 <= n <= 10^5
0 <= k <= 10^9
0 <= arr[i] <= 10^9

Time Limit : 1 second