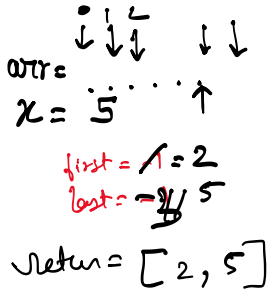
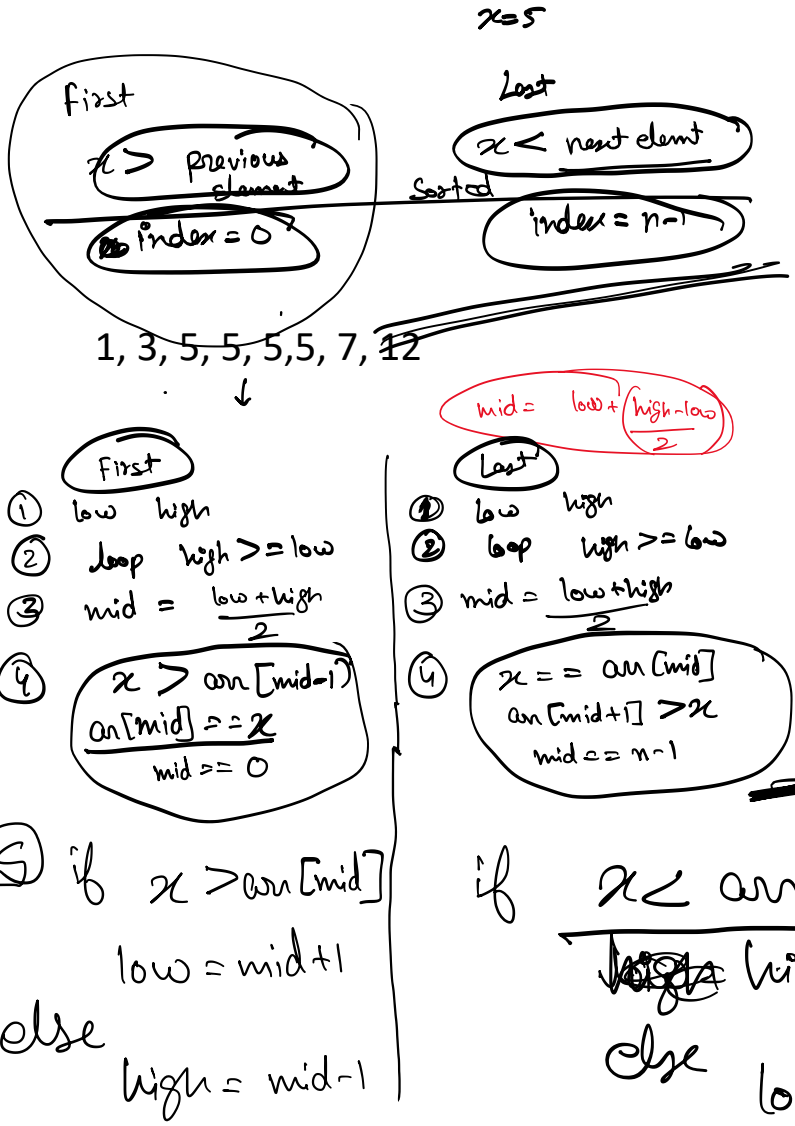
First and last position



O(n)

```
def first_last(arr, x):

    first = -1
    last = -1

    for i in range(len(arr)):

        if ( x != arr[i]):
            continue

        if (first == -1):
            first = i

        last = i
    return [first, last]
```



```python
def last(arr, x):
    n = len(arr)
    low = 0
    high = n-1
    res = -1
    while low<=high:
        mid = (low+high)//2
        if arr[mid] > x :
            high = mid -1
        elif arr[mid] <x :
            low =  mid+1
        else:
            res  = mid
            low = mid + 1
    return res
```