SEARCH INSERT POSITION

☆ In this problem we are given an array of distinct sorted integers and we are supposed to return the index where our target element would be placed if it isn't already there. If it is, we just return its index

We just do a normal binary search if the search succeeds we return its index, if it doesn't we just its lower bound. The same would be true for upper bound if our search space was sorted in descending order.

Pseudocode :

```
searchInsertK(arr, N, a) {
    low = 0, ans = N
    high = N - 1
    while (low <= high) {
        mid = (low + high) / 2
        if (arr[mid] == a) {
            while (arr[mid] == arr[mid-1]) {
                mid--
            }
            return mid
        } else if (arr[mid] < a) {
            low = mid + 1
        } else {
```

```
            ans = mid
            high = mid - 1
        }
    }
    return ans
}
```