```c
bool search(int* nums, int numsSize, int target) {
    int left = 0, right = numsSize - 1;

    while (left <= right) {
        int mid = left + (right - left) / 2;

        // Found target
        if (nums[mid] == target)
            return true;

        // If duplicates make it impossible to choose a sorted side
        if (nums[left] == nums[mid]) {
            left++;
            continue;
        }

        // Left half is sorted
        if (nums[left] < nums[mid]) {
            if (nums[left] <= target && target < nums[mid])
                right = mid - 1;
            else
                left = mid + 1;
        }
        // Right half is sorted
        else {
            if (nums[mid] < target && target <= nums[right])
                left = mid + 1;
            else
                right = mid - 1;
        }
    }

    return false;
}
```