

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 #include <vector>
4 using namespace std;
5
6 vector<int> searchForRange(vector<int> array, int target);
7 void alteredBinarySearch(vector<int> array, int target, int left, int right,
8                           vector<int> *finalRange, bool goLeft);
9
10 // O(log(n)) time | O(log(n)) space
11 vector<int> searchForRange(vector<int> array, int target) {
12     vector<int> finalRange{-1, -1};
13     alteredBinarySearch(array, target, 0, array.size() - 1, &finalRange, true);
14     alteredBinarySearch(array, target, 0, array.size() - 1, &finalRange, false);
15     return finalRange;
16 }
17
18 void alteredBinarySearch(vector<int> array, int target, int left, int right,
19                           vector<int> *finalRange, bool goLeft) {
20     if (left > right) {
21         return;
22     }
23     int mid = (left + right) / 2;
24     if (array[mid] < target) {
25         alteredBinarySearch(array, target, mid + 1, right, finalRange, goLeft);
26     } else if (array[mid] > target) {
27         alteredBinarySearch(array, target, left, mid - 1, finalRange, goLeft);
28     } else {
29         if (goLeft) {
30             if (mid == 0 || array[mid - 1] != target) {
31                 finalRange->at(0) = mid;
32             } else {
33                 alteredBinarySearch(array, target, left, mid - 1, finalRange, goLeft);
34             }
35         } else {
36             if (mid == array.size() - 1 || array[mid + 1] != target) {
37                 finalRange->at(1) = mid;
38             } else {
39                 alteredBinarySearch(array, target, mid + 1, right, finalRange, goLeft);
40             }
41         }
42     }
43 }
44
```