

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 int shiftedBinarySearch(vector<int> array, int target);
7 int shiftedBinarySearchHelper(vector<int> array, int target, int left,
8                               int right);
9
10 // O(log(n)) time | O(1) space
11 int shiftedBinarySearch(vector<int> array, int target) {
12     return shiftedBinarySearchHelper(array, target, 0, array.size() - 1);
13 }
14
15 int shiftedBinarySearchHelper(vector<int> array, int target, int left,
16                               int right) {
17     while (left <= right) {
18         int middle = (left + right) / 2;
19         int potentialMatch = array[middle];
20         int leftNum = array[left];
21         int rightNum = array[right];
22         if (target == potentialMatch) {
23             return middle;
24         } else if (leftNum <= potentialMatch) {
25             if (target < potentialMatch && target >= leftNum) {
26                 right = middle - 1;
27             } else {
28                 left = middle + 1;
29             }
30         } else {
31             if (target > potentialMatch && target <= rightNum) {
32                 left = middle + 1;
33             } else {
34                 right = middle - 1;
35             }
36         }
37     }
38     return -1;
39 }
```