

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 #include <vector>
4 using namespace std;
5
6 void quickSortHelper(vector<int> &array, int startIdx, int endIdx);
7
8 // Best: O(nlog(n)) time | O(log(n)) space
9 // Average: O(nlog(n)) time | O(log(n)) space
10 // Worst: O(n^2) time | O(log(n)) space
11 vector<int> quickSort(vector<int> array) {
12     quickSortHelper(array, 0, array.size() - 1);
13     return array;
14 }
15
16 void quickSortHelper(vector<int> &array, int startIdx, int endIdx) {
17     if (startIdx >= endIdx) {
18         return;
19     }
20     int pivotIdx = startIdx;
21     int leftIdx = startIdx + 1;
22     int rightIdx = endIdx;
23     while (rightIdx >= leftIdx) {
24         if (array.at(leftIdx) > array.at(pivotIdx) &&
25             array.at(rightIdx) < array.at(pivotIdx)) {
26             swap(array[leftIdx], array[rightIdx]);
27         }
28         if (array.at(leftIdx) <= array.at(pivotIdx)) {
29             leftIdx += 1;
30         }
31         if (array.at(rightIdx) >= array.at(pivotIdx)) {
32             rightIdx -= 1;
33         }
34     }
```

Solution 1   Solution 2   Solution 3

```
1 #include <vector>
2 using namespace std;
3
4 vector<int> quickSort(vector<int> array) {
5     // Write your code here.
6     return {};
7 }
8
```

Our Tests

Custom Output

Submit Code

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```
10
11
12 def test_case_27, 100, 2
13   return test_helper(2, 10)
14   assert_equal(test(2, 10), 10)
15 end
16
17 def test_case_28, 100, 2
18   return test_helper(2, 10)
19   assert_equal(test(2, 10), 10)
20 end
21
22 def test_case_29, 100, 2
23   return test_helper(2, 10)
24   assert_equal(test(2, 10), 10)
25 end
```

Run or submit code when you're ready.