

Our Solution(s)

Run Code

Run Code

Solution 1

```

1  # Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3  # Best: O(n) time | O(1) space
4  # Average: O(n) time | O(1) space
5  # Worst: O(n^2) time | O(1) space
6  def quickselect(array, k):
7      position = k - 1
8      return quickselectHelper(array, 0, len(array) - 1, position)
9
10
11 def quickselectHelper(array, startIdx, endIdx, position):
12     while True:
13         if startIdx > endIdx:
14             raise Exception("Your algorithm should never arrive here!")
15         pivotIdx = startIdx
16         leftIdx = startIdx + 1
17         rightIdx = endIdx
18         while leftIdx <= rightIdx:
19             if array[leftIdx] > array[pivotIdx] and array[rightIdx] <
20                 swap(leftIdx, rightIdx, array)
21             if array[leftIdx] <= array[pivotIdx]:
22                 leftIdx += 1
23             if array[rightIdx] >= array[pivotIdx]:
24                 rightIdx -= 1
25         swap(pivotIdx, rightIdx, array)
26         if rightIdx == position:
27             return array[rightIdx]
28         elif rightIdx < position:
29             startIdx = rightIdx + 1
30         else:
31             endIdx = rightIdx - 1
32
33

```

Your Solutions

Run Code

Run Code

Solution 1 Solution 2 Solution 3

Solution 2 Solution 3

Solution 3

```
1 def quickselect(array, k):
2     # Write your code here.
3     pass
4
```

Our Tests

Custom Output

Submit Code

Submit Code

```
10 # Add values to result
11 result.append(sorted(result[-100, 20, 40], 10, 20))
12
13 # Add values to result
14 result.append(sorted(result[-100, 20, 40], 20, 40), 40, 60)
15
16 # Add values to result
17 result.append(sorted(result[-100, 20, 40], 40, 60), 60, 80)
18
19 # Add values to result
20 result.append(sorted(result[-100, 20, 40], 60, 80), 80, 100)
21
22 # Add values to result
23 result.append(sorted(result[-100, 20, 40], 80, 100), 100, 120)
24
25 # Add values to result
26 result.append(sorted(result[-100, 20, 40], 100, 120), 120, 140)
27
```

Run or submit code when you're ready.