AlgoExpert Quad Layout C++ 14px Sublime Monokai 00:00:0

Our Solution(s) Run Code

Solution 1

```cpp
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#include <vector>
using namespace std;

void buildMaxHeap(vector<int> &array);
void siftDown(int currentIdx, int endIdx, vector<int> &heap);

// Best: O(nlog(n)) time | O(1) space
// Average: O(nlog(n)) time | O(1) space
// Worst: O(nlog(n)) time | O(1) space
vector<int> heapSort(vector<int> array) {
  buildMaxHeap(array);
  for (int endIdx = array.size() - 1; endIdx > 0; endIdx--) {
    swap(array[0], array[endIdx]);
    siftDown(0, endIdx - 1, array);
  }
  return array;
}

void buildMaxHeap(vector<int> &array) {
  int firstParentIdx = (array.size() - 2) / 2;
  for (int currentIdx = firstParentIdx; currentIdx >= 0; currentIdx--)
    siftDown(currentIdx, array.size() - 1, array);
  }
}

void siftDown(int currentIdx, int endIdx, vector<int> &heap) {
  int childOneIdx = currentIdx * 2 + 1;
  while (childOneIdx <= endIdx) {
    int childTwoIdx = currentIdx * 2 + 2 <= endIdx ? currentIdx * 2 +
    int idxToSwap;
    if (childTwoIdx != -1 && heap.at(childTwoIdx) > heap.at(childOneId
```

Your Solutions Run Code

Solution 1 Solution 2 Solution 3

```cpp
#include <vector>
using namespace std;

vector<int> heapSort(vector<int> array) {
  // Write your code here.
  return {};
}

```

Our Tests

Custom Output Submit Code

[illegible]

```
[illegible]
```

Run or submit code when you're ready.