Our Solution(s)

Run Code

Solution 1

```java
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class Program {
  // Best: O(nlog(n)) time | O(1) space
  // Average: O(nlog(n)) time | O(1) space
  // Worst: O(nlog(n)) time | O(1) space
  public static int[] heapSort(int[] array) {
    buildMaxHeap(array);
    for (int endIdx = array.length - 1; endIdx > 0; endIdx--) {
      swap(0, endIdx, array);
      siftDown(0, endIdx - 1, array);
    }
    return array;
  }

  public static void buildMaxHeap(int[] array) {
    int firstParentIdx = (array.length - 2) / 2;
    for (int currentIdx = firstParentIdx; currentIdx >= 0; currentIdx-
      siftDown(currentIdx, array.length - 1, array);
    }
  }

  public static void siftDown(int currentIdx, int endIdx, int[] heap)
    int childOneIdx = currentIdx * 2 + 1;
    while (childOneIdx <= endIdx) {
      int childTwoIdx = currentIdx * 2 + 2 <= endIdx ? currentIdx * 2
      int idxToSwap;
      if (childTwoIdx != -1 && heap[childTwoIdx] > heap[childOneIdx])
        idxToSwap = childTwoIdx;
      } else {
        idxToSwap = childOneIdx;
      }
      if (heap[idxToSwap] > heap[currentIdx]) {
```

Your Solutions

Run Code

Solution 1   Solution 2   Solution 3

```java
class Program {
  public static int[] heapSort(int[] array) {
    // Write your code here.
    return null;
  }
}
```

Our Tests

Custom Output

Submit Code

Run or submit code when you're ready.