

```
function mergeSort(array) {
  // base case
  if(array.length == 1){
    return array;
  }
  var midIdx = Math.floor(array.length/2);
  var leftHalf = array.slice(0, midIdx);
  var rightHalf = array.slice(midIdx);
  return mergeSortedArrays(mergeSort(leftHalf),
                           mergeSort(rightHalf));
}

function mergeSortedArrays(leftHalf, rightHalf){
  sortedArray = [];
  var k, i, j;
  k = i = j = 0;
  while (i < leftHalf.length && j < rightHalf.length) {
    if(leftHalf[i] <= rightHalf[j]){
      sortedArray[k] = leftHalf[i];
      i++;
    }
    else {
      sortedArray[k] = rightHalf[j];
      j++;
    }
    k++;
  }

  while (i < leftHalf.length) {
    sortedArray[k] = leftHalf[i];
    i++;
    k++;
  }

  while (j < rightHalf.length) {
    sortedArray[k] = rightHalf[j];
    j++;
    k++;
  }
  return sortedArray;
}

console.log(mergeSort([2,4,23,3,1]))
```