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CSCI 3320-850: PA #2 Written Report

For the revised heapsort algorithm found in this program, the modifications that were implemented to the algorithm were quite simple. In short, the indices of those elements in the original array which did not fall in to the range between the numbers of low and high were kept track of; the remaining elements were copied into a temporary array. A second temporary array of the same size was created and the heapsort algorithm was performed on the first temporary array as normal. After each heapify() and remove\_max() (the value of which assigned to a variable x) was performed on the first temporary array, the variable x was then moved into its correct position on the second temporary array. Once the final iteration of the heapsort algorithm was completed, the second temporary array becomes the sorted heap. To get the final resulting array, however, all indices in the original array which are *not* those which should be preserved are modified to contain an element from the sorted temporary array (in correct order, of course). This concludes the general idea behind the modification of the heapsort algorithm.