Program Structures and Algorithms

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***Task:***

***In this assignment, your task is to determine--for sorting algorithms--what is the best predictor of total execution time: comparisons, swaps/copies, hits (array accesses), or something else. You will run the benchmarks for merge sort, (dual-pivot) quick sort, and heap sort. You will sort randomly generated arrays of between 10,000 and 256,000 elements (doubling the size each time). If you use the SortBenchmark, as I expect, the number of runs is chosen for you. So, you can ignore the instructions about setting the number of runs. For each experiment (a sort method of a given size), you will run it twice: once for the instrumentation, once (without instrumentation) for the timing***

***Code –***

HeapSort

A screenshot of a computer code

Description automatically generated

**HeapSortTest:**

A screenshot of a computer

Description automatically generated

**Merge Sort:**

**A screenshot of a computer code

Description automatically generated**

**A screenshot of a computer code

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**A screen shot of a computer code

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