**Program Structures and Algorithms – Assignment 6**

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**Task**: Conduct performance tests for merge sort, dual-pivot quicksort, and heap sort to identify which metric best forecasts the total execution time it takes to sort.

**Observation & Conclusion**: Among the metrics tested, the number of hits emerges as the most reliable indicator for predicting the sorting time.

Graph plots:**A graph of different colored lines

Description automatically generatedA graph of a quick sort dual pivot

Description automatically generatedA graph showing the number of items in the market

Description automatically generated with medium confidence**

**UNIT TESTCASES:**

MergeSort:

**A screenshot of a computer program

Description automatically generated**

QuickSortDualPivot**:A screenshot of a computer

Description automatically generated**

HeapSort**:A screenshot of a computer program

Description automatically generated**