

Iterations and Recursions Assignment

Data Structures Prof. Janki Bhimani

This program was created in Visual Studios environment. The programming language is c++. This code may produce stack overflow error as I had to adjust my IDE to run. For pretest of code launch .cpp file into this IDE:

https://www.onlinegdb.com/online_c++_compiler#

In order to create the program in this reflection; I used the heap sort algorithm to sort the random integers of data. The heap sort function would sort an array of integers when called. The iteration and recursion function would use that same sorted array and display results for each data size. This process would loop 5 times before displaying the average `CLOCKS_PER_SECOND` time for each data size. Here is My chart Created: The total output was saved to txt file and imported to excel to create the data chart.

Data Size	Bubble Sort	Insertion Sort	Merge Sort	Heap Sort	Selection Sort	Quick Sort
1000	0.2	0.4	0.6	0.8	1	1000
4000	0.2	0.4	0.6	0.8	1	4000
8000	0.2	0.4	0.6	0.8	1	8000
10000	0.2	0.4	0.6	0.8	1	10000
40000	0.2	0.4	0.6	0.8	1	40000
80000	0.2	0.4	0.6	0.8	1	80000
100000	0.2	0.4	0.6	0.8	1	100000

