Recursive Sorting Research Assignment:

Due Aug 12 by 11:59pm **Points** 100 **Submitting** a text entry box or a file upload
Available Aug 3 at 12am - Aug 14 at 11:59pm 12 days

This assignment was locked Aug 14 at 11:59pm.

As stated in the chapter, many different factors affect the running time of an algorithm. Your task is to conduct experiments to see how sorting algorithms perform in different environments.

To construct this experiment you must have a program or two programs that sorts sets of data. The program or programs should sort a set of number using a quick sort and using a merge sort. To expedite this, example code that performs a quick sort and a merge sort have been provided.

You should conduct sets of experiments. Categorize your data in two major sections, one for merge sort results, one for quick sort results. Each section can be sub divided into criteria that you used to bench mark the sort.

Conduct benchmarking of quicksort and merge sort several times on the same system - once with as much software turned off a possible, and then with other programs running - Word, Excel, videos, etc. See if you can determine how different software or combinations of software running at the same time slow down the sorting algorithms the most. You might want to include an Internet connection in this test. Just as with the different software, How does a live connection to a network affect the running time of the algorithms?

Use Data Sets Starting at at 10,000,000 randomly generated numbers

All programming projects must have an associated Professional Lab Report submitted with in. A Lab Report must contain the minimum Requirements List Below

Template Workbook for Bench Marking Data

benchmarking.xlsx

Document Formatting

- A document header - The Header section should contain your name
- A document footer - The footer should contain a page number

Paragraphs Formatting should be formatted

- 1.5 line spacing
- 12 points before and after the paragraph

Character Formatting

- Body Text should be 12 points
- Segment Headers should be boldface

1. Submit a Project containing the Quick Sort Tool program you created to conduct the research. If the project contains the features of both programs, then only submit one project.

2. Submit a Project containing the Merge Sort Tool program you created to conduct the research. If the project contains the features of both programs, then only submit one project.

3. Submit an Excel Workbook containing the Bench Marking Data.

4. Submit a Lab Report for building your project tool.
5. Submit an Essay Report describing your work, your results, and your conclusions.Essays should follow the same formatting requirements as Lab Reports