

Computer Science 112

Computer Science with Java I

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Lab Report – Week 6 – Quicksorting

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CSCI 112 [Spring]

Assignment Analysis and Design

The program runs through the 4 different ways that you can pick the pivot point to quicksort thru an array recursively and writes the time findings to a file.. I wrote the code based off the code given in the chapter for quicksorting. I first figured out how to set the right pivot point for each different pivot method. Then I reworked the quicksort method to run each pivot different pivot point based on a val in the main method determined by how many times the loop was ran. The program captures the computer's time before running the sort method and then captures it again after it finishes. Then it subtracts the finish time from the start time and returns the determined time.

Assignment Code

Netbeans files included in zipped file.

Assignment Testing

Describe how you tested this program to verify that it runs correctly.

I first set the array to use the numbers 1 – 1000 forward and backwards to make sure it ran properly. Then I mixed up the numbers 1 – 1000 and made sure it worked for all methods also by printing to screen. After I was sure all the methods worked I tried 10,000 random values and made sure the times were being stored to the file and looked through the arrays to make sure they were in correct order. Anything 1,000,000 or over returned a overflow error because of the recursive method.

Assignment Evaluation

The project was really solid in helping me understand how quickstorting works and implementing different routes a program can take using special vals and recursive methods. I also have a better understanding of the String.format() method now thanks to this project.