

Requirements for Project Multi-Threaded Sorter:

Functional Requirements

- * The program should accept a single argument sent to it depicting how many threads to use.
- * The argument should be a number indicating how many threads should be created to sort.
- * The program should run through all sorting methods (8+) in four size increments.
- * The program should split into a user specified number of concurrent threads to perform tests.
- * Each individual thread should run through all and sizes for each method once.
- * The first thread to complete all sorts should average the results of all but the last sorting method.
- * The last thread to complete all sorts should average the final sorting algorithm and size.
- * Once all threads complete, a report file should be created to store all average sorting results.

Sorting algorithms to be used:

Merge, Insertion, Quick, Radix, Selection, Bubble, Heap and Counting sorts (and others should we desire to add more)

Non-functional Requirements

- * If no argument is given when running the program, the program could prompt for one.
- * The program could provide an error message if the specified thread count is not a multiple of 4.
- * The program could prompt the user to ask if it should do all tests or just a specific one.
- * The program could ask to overwrite the output file if it exists, append it, or discard new results.
- * The last thread to complete a test could output to screen a message indicating the test and size just completed.