OS PROJECT

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Comparison between processes and threads (5)

We are aiming to compare the execution and duration time of 5 algorithms by running them as a process and with threads to figure out which is faster or slower and which implementation suits the algorithm best.

Algorithms chosen:

1. Merge sort
2. Quick sort
3. Radix Sort
4. Selection Sort
5. Insertion Sort

Methodology:

1. Take 512 random, discrete numbers and sort them using the 5 algorithms mentioned above. Note their execution and duration time.
2. Use Multi-threading using POSIX (threads depend on CPU cores) to run the same algorithms on the same number set and record execution and duration time. Note the differences between the two times.
3. Increase/decrease the number of threads (by managing the CPU cores) to run the sorting algorithms again and record differences.

At the end of the project, we will have a comprehensive understanding about the differences in running algorithms using processes and , the effect of increasing/decreasing the number of threads and which implementation suits each algorithm best.