Mike Botti
Zac Blanco
Assignment 2

Timing Functions

Inside of our main testing program, we wrote a function called get_running_times(). It simply just calls each function x amount of times for the same parameters. We used gettimeofday and the time.h library to help determine the runtime of all these different scenarios. There were four main ideas from testing each for time.

- One single compression with 1 split
- One single compression with 5 splits
- One single compression with 50 splits
- 50 compressions each with 50 splits

We wanted to run it many times, so originally we created loops that would take the average of all these times over 200 runs. The fourth task took too long but it seemed as if the processes were running generally faster than the threads. But if we took out the loops and ran them each individually the threads were running much faster. The current program we have running finds the runtime of just a single iteration of each of the four scenarios.

Logged Values

- One single compression with 1 split
    - Threads
        - 138 Microseconds
        - 157 Microseconds
        - 150 Microseconds
        - 149 Microseconds
    - Process
        - 1745 Microseconds
        - 672 Microseconds
        - 705 Microseconds
        - 832 Microseconds
- One single compression with 5 splits
    - Threads
        - 701 Microseconds
        - 973 Microseconds
        - 386 Microseconds

        - 322 Microseconds
    - Process
        - 1862 Microseconds
        - 2139 Microseconds
        - 5101 Microseconds
        - 1519 Microseconds
- One single compression with 50 splits
    - Threads
        - 3127 Microseconds
        - 3703 Microseconds
        - 2969 Microseconds
        - 2975 Microseconds
    - Process
        - 16374 Microseconds
        - 13988 Microseconds
        - 15481 Microseconds
        - 13198 Microseconds
- 50 compressions with 50 splits
    - Threads
        - 465950 Microseconds
        - 471070 Microseconds
        - 388668 Microseconds
        - 390652 Microseconds
    - Process
        - 897370 Microseconds
        - 894066 Microseconds
        - 696323 Microseconds
        - 809226 Microseconds

Conclusion

After testing through our functions many times, it's clear that threads run faster on the current machine that we're testing on. The times will always vary due to the machine and it's hardware.