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CS214 Assignment 2: Procs vs. Threads Time Tests

Performance Analysis:
Testing this program on 3 input files gave the following times for the multi-threaded part of the program. Number of threads used was 4 across all tests (exception cases 5.2 & 5.3). Times will likely be the same for either program if only 1 part is specified, since multi-processing/multi-threading is only called when the user specifies more than 1 part. Due to the program generating output files and having to delete them after each call (program throws an error notifying user that output files exist when they run it), we tested each case about 5 times (times are an average of the runs).

1. **Case 1; input:** “qwwwwwwwwweeeeerrtyyyyyqqqqweeeEErTTTaaaaaaaZZZv”
    a. Multi-threading (MT) time elapsed: 0m0.006s
    b. Multi-processing (MP) time elapsed: 0m0.006s
2. **Case 2; input:** “oooo”
    a. MT time elapsed: 0m0.003s
    b. MP time elapsed: 0m0.011s
3. **Case 3; input:** “jjjjjjjjjooooooooaaaaaaaaanrr”
    a. MT time elapsed: 0m0.005s
    b. MP time elapsed: 0m0.009s
4. **Case 4; input:** “qqQQqqq1 ffffjjjjj3822222slllllmmmaooo”
    a. MT time elapsed: 0m0.003s
    b. MP time elapsed: 0m0.007s
5. **Case 5; input: (all test cases pre-fixed with 5 will be using the following input)**
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   a. MT time elapsed: 0m0.003s
   b. MP time elapsed: 0m0.011s

6. **Case 5.2 (same input, 20 parts); input:**
   a. MT time elapsed: 0m0.014s
   b. MP time elapsed: 0m0.030s
7. **Case 5.3 (same input, 1 part); input:**
   a. MT time elapsed: 0m0.002s
   b. MP time elapsed: 0m0.002s