Multicore Programming
- Project 1 (warm-up) -

Description:

As explained the lecture 1, you need to write a program (**written in C**) that can print out (1) the total number of prime numbers you find and (2) all prime numbers between two positive integers, which should be provided as input arguments. Your program should print out the usage if the user provides wrong arguments. Your program should expect at most four input arguments:

1. --num_thread (or –n) : a total number of threads
2. --start (or –s) : start value (**optional, default 1 if it is not provided**)
3. --end (or –e) : end value
4. --verbose (or –v) : print all prime numbers

Any unexpected arguments should be treated as a failure, and the program should print out the failure reason and the correct usage. The example run may look like :

bash> fast_prime_search --num_thread 200 --start 2 --end 100000000000
2
3
5
7
….
Total number of prime numbers between 2 and 1000000000000 is XXXX.

bash> fast_prime_search --start 100000000 --end 1000
Please provide correct argument: “start” should be less than “end”

bash> fast_prime_search –end 1231241 ← In this case, “start” should be 1

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1. Please write detailed comments.
2. The target binary should be put into “bin” directory.
3. Try to be as creative as possible (brainstorm a lot with other students, but do NOT share the code).
4. Your score will be based on the combination of your rank and relative speed-up compared to the baseline program (which will be announced shortly).

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DUE DATE: **11:59pm September 16, 2015 (This is HARD DEADLINE)**
Execution time ranking will be updated every day right after we receive any code from you !!!

Please enjoy and have fun!!!