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CS 475 Assignment 0

1. I ran this on my home machine. I'm running Ubuntu 14.04, 8 GBs of RAM with an Intel 2500k i5 quad core. This model does NOT support hyperthreading. I compiled the program with GCC 4.8, running OpenMP 3.1. This is the latest version of GCC available to Ubuntu through apt.

2.
    a. With 1 Thread, I ran with an array size of **500,000**
       Num of Tries: **100,000**
       Peak Performance: **2104.55 MegaMults/Sec**
       Average Performance: **1957.00 MegaMults/Sec**
    b. With 4 threads, I ran with an array size of **500,000**
       Num of tries: **100,000**
       Peak Performance: **7710.46 MegaMults/Sec**
       Average Performance: **7371.48 MegaMults/Sec**

3. I believe that we're getting a jump in performance (about four times) because we're executing different parts of the program in parallel. Given we have four times the power, we get about four times the performance.