PrimesFJ Write-Up

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For the program SerialPrimes, the order of growth, I believe, is O(n(n^1/2)). The reason for that is the two loops. The outer loop loops from 2-end, skipping even numbers -that could also divide the order of growth in half, but since it's a constant I don't think it's significant. The inner loop goes from 2-n^½. This is because any multiples of n that are greater than its root have already been accounted for. My results for order of growth of this algorithm ranged from just under 2 to 2.5. O(n(n^1/2)) wol come out to just over linear.

For TwoThreadPrimes, a naive analysis would say the order of growth should be the same. This algorithm cuts the work in half -multiplying the order of growth by a constant factor of ½. Observed order of growth ranged from just under 2 to around 2.5.

For PrimesFJ: My laptop has 10 cores, 12 virtual cores. The order of growth I observed came out to around 1.7-1.85. I got the fastest results with the smallest threshold. I found that a threshold of 5000 was an order of magnitude faster than 50, and performance didn't change much as I went to 10000.