Swetha Jayapathy
Student ID : 934041047
Instructor : Mike Bailey
CS575: Introduction to Parallel Programming
April 15th, 2020

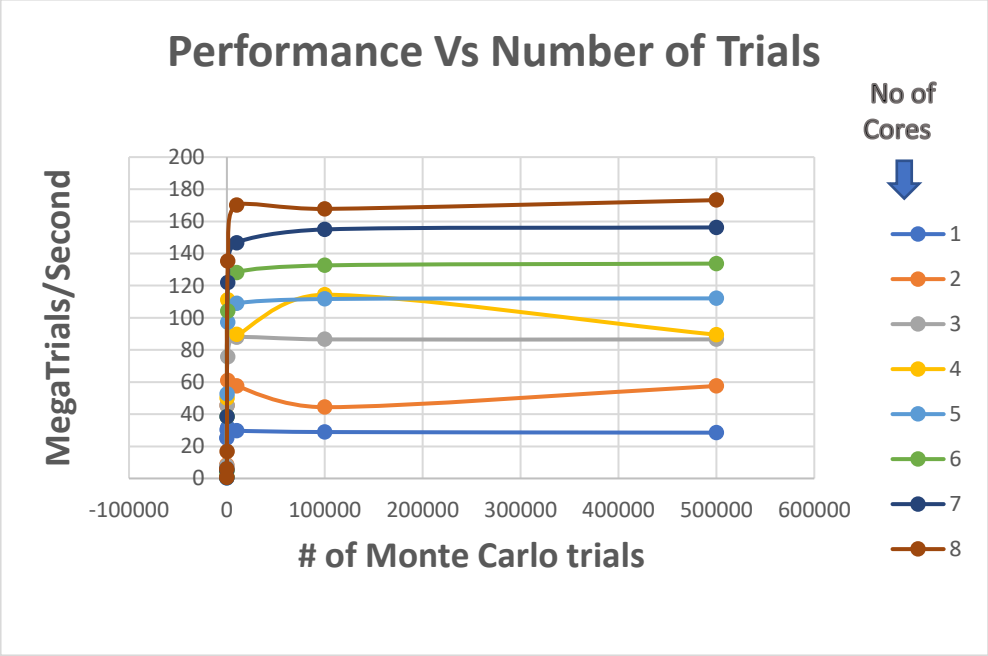
Project #1

Machine in which I ran my code
I ran my code on my laptop – Lenovo – L390 Yoga using Visual Studio
Operating System - Windows 10
CPU – Intel core i5 processor
Memory – 8 GB RAM

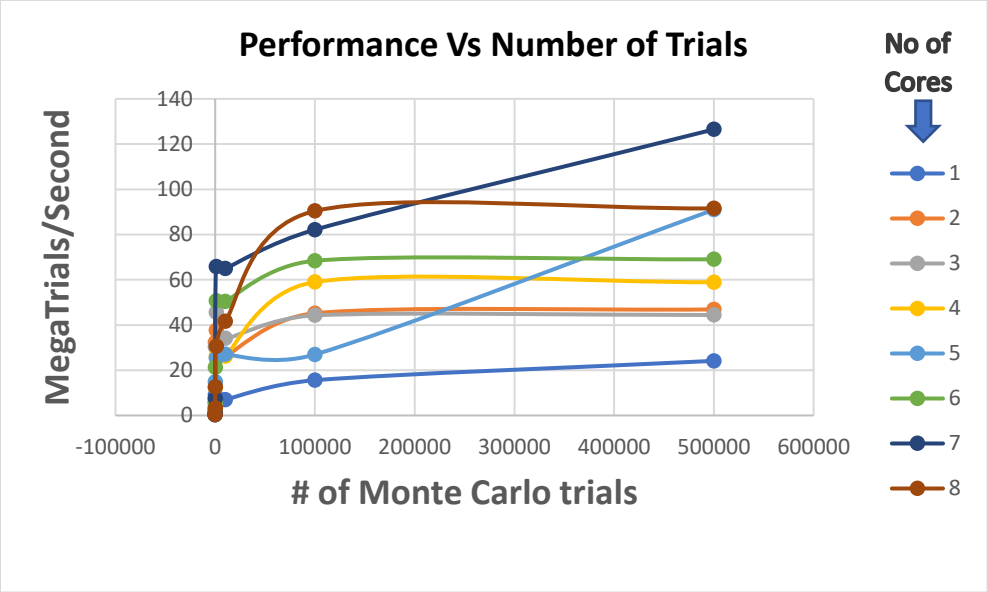
1. Close estimate of the actual probability
   The close estimate of the actual probability is 0.131

2. Good graph of performance vs. number of trials

When NUMTRIES was set to 10

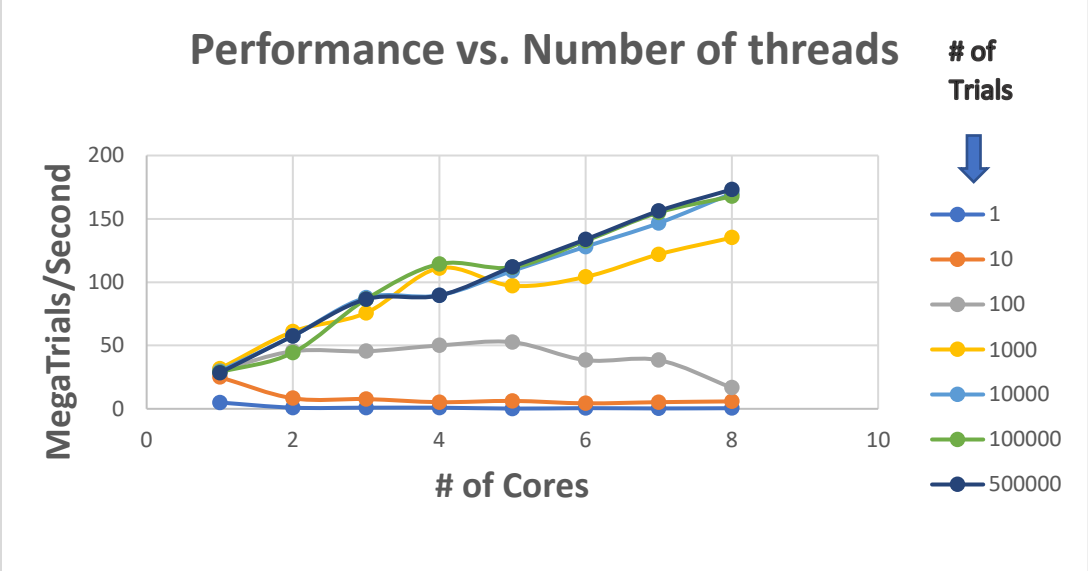


When NUMTRIES was set to 30

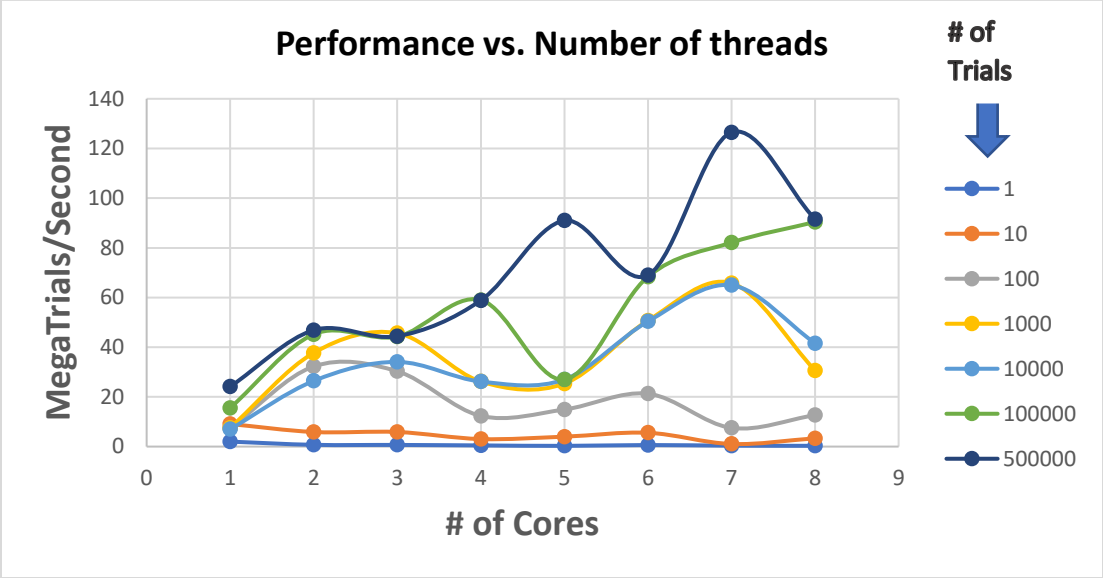


3. Good graph of performance vs. number of threads

When NUMTRIES was set to 10



When NUMTRIES was set to 30



4. Compute Fp, the Parallel Fraction (show your work)
   Calculating for 100000 number of trials

   SpeedUp S = (Performance with 8 threads) / (Performance with one thread)

   = 90.41/15.59

   = 5.7992

   Therefore, SpeedUp is 5.7992

   Parallel fraction is calculated by the Amdahl's Formula :
   F =(n/n-1)(1-(1/SeepdUp))

   = (8/8-1) (1-(1/5.7992))

   = (1.1428) (1-0.1724)

   = 0.9457

   Parallel fraction = 0.9457