ASSIGNMENT 02

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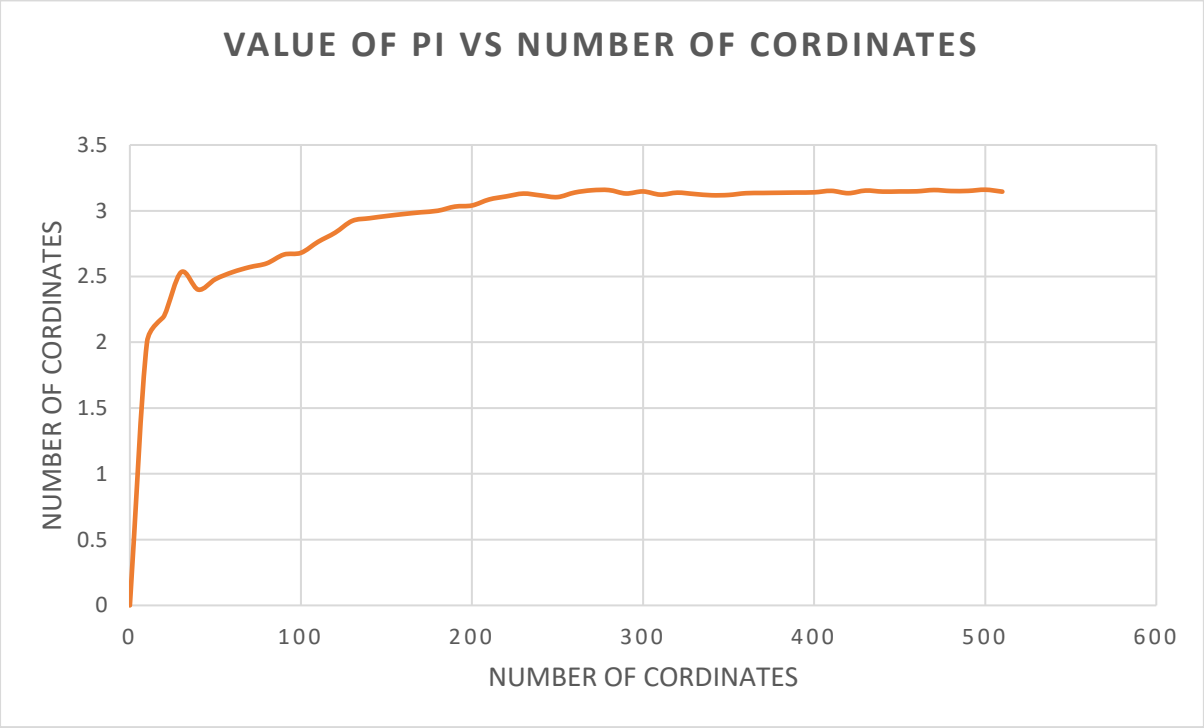
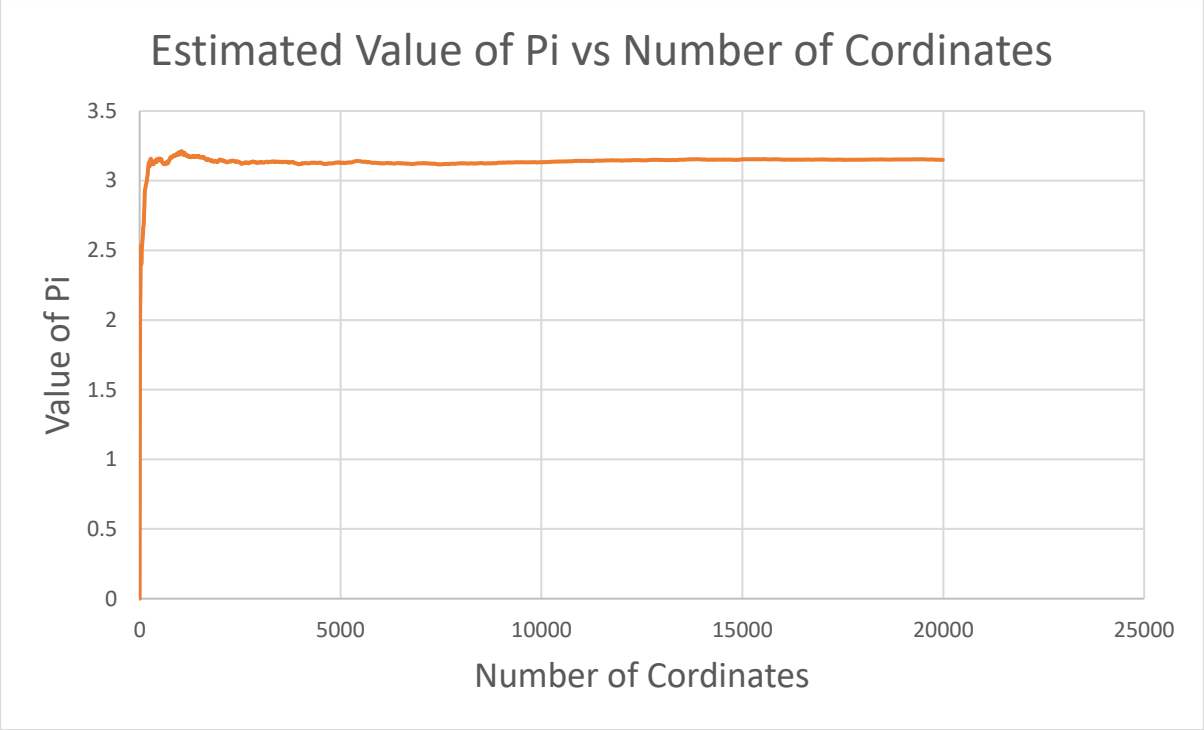
Monte Carlo is a person who introduced a method to calculate the value of pi(.142592..).In that code two Random numbers is generated between range -1 & +1. That random numbers is assumed as x coordinate and y coordinate. Then that x and y coordinates is considered falling within the circle. After counting how many random points in the circle, and calculate the pi value using the given formula.

The code is generated random numbers using threads. User can change number of threads. I used 2 threads to plot below graphs. Out of the coordinates generated, the coordinates which are lying within the circle are counted. Mutex lock is used in order to synchronize the processes between the threads to prevent the race conditions. Below graph is plotted by using output results.



500 coordinate points were used to plot this graph. It can be seen that the graph initially starting at zero grows inverse exponentially and reaches to a constant value around 3, which is approximately equal to the value of Pi



500 coordinate points were used to plot above graph. When we compare above 2 graphs, the accuracy of pi value is going high with considering number of coordinates.