

P5 Iteration Two Test Results

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Based on the number of throws we will analyze how the estimate of Pi, the delta from the true value of Pi, and the time taken to calculate the estimate changes as we increase the total amount by factors of 10. (Using 1 thread: 1 set of darts at a time).

Number of throws	Estimate of Pi	Delta from true Pi	Time taken
10000	3.151200	0.009607	338.417 μ s
100000	3.142320	0.000727	2.905125ms
1000000	3.144612	0.003019	29.109291ms
10000000	3.141682	0.000089	288.818833ms
100000000	3.141662	0.000070	2.845339916s
1000000000	3.141604	0.000011	28.787117459s
10000000000	3.141598	0.000005	4 min 55.393576209s

Summary of the Results

In the data, as the number of throws increases, we can see that the estimate of Pi becomes more accurate because the delta from true pi gets smaller and smaller. However, the time taken to calculate the estimate increases significantly with a larger number of throws. Overall, the data shows that with a higher number of throws, the estimate is more accurate, but it takes a much longer time to compute it.