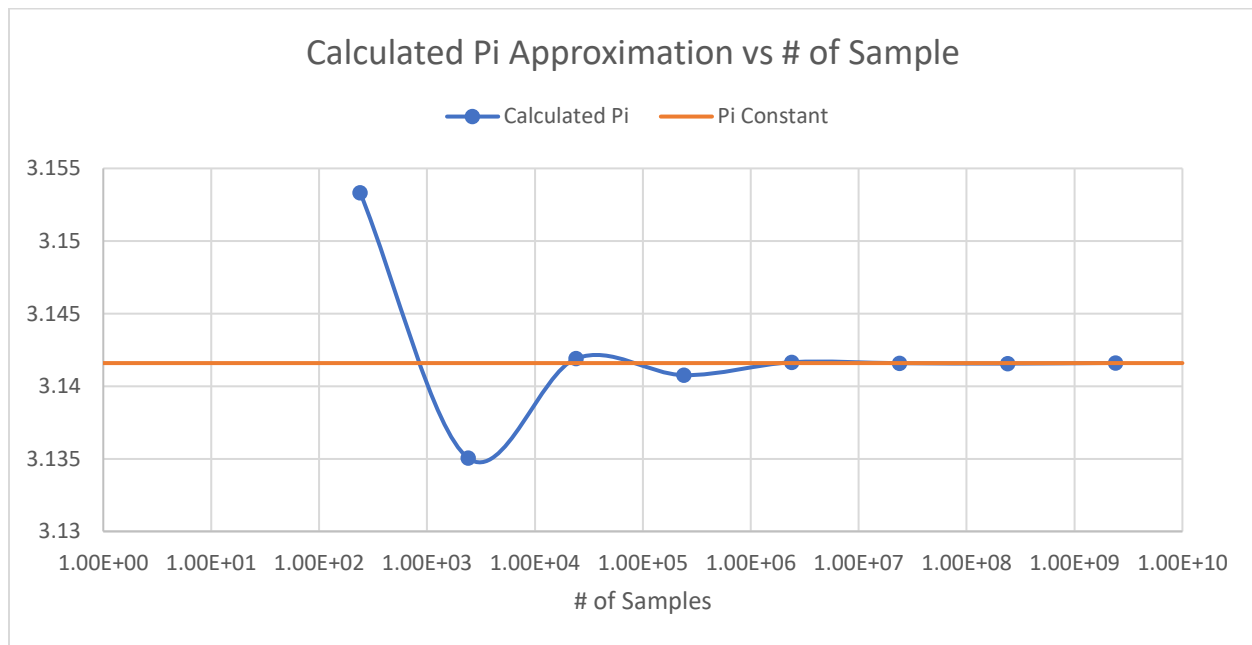Michael Rivnak

COMP 3450

Prof. Leon Deligiannidis

22 July 2020

<div align="center">Assignment LA5</div>

This program was designed to use the dimension of a circle to approximate pi. It was very effective at approximating with even relatively low sample sizes.

The timing of this program was very confusing for the smaller sample sizes. I have absolutely no explanation for why the smaller two sizes got slower as they were more parallelized. Particularly the 240 size taking an order of magnitude longer than the 24000 size sample when running on 10 nodes. I thought it could be to a higher percentage of the time being take up by MPI since the sample size was low, but this would only make sense if I was comparing times that were scaled to the size, this was a higher overall time despite doing less work.

Avg Run Time vs # of Nodes
(@ # of samples)