

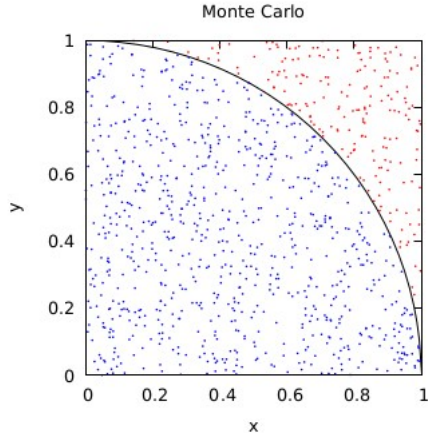
Assignment 1 Writeup

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Plot 1

This is a plot of the x and y values within the range of 0 to 1 produced by running `./monte_carlo -i 1000`. I used the command line argument `-i 1000` to limit the iterations to 1,000. I used `awk` to print columns x, y, and circle. The plot shows the line of the circle with a radius of 1 around the origin. The points within the circle are blue and the ones outside are red. I used the commands to set the x and y ranges to 0 to 1. I used `set size square` in order to make the graph a square like the example plot. I used `set key autotitle columnhead` so that the first line would be ignored as titles when it came time to plot. I used `set palette defined with 0 and 1` so that it would check the circle column and color the points accordingly. I used `set object` to create the quarter circle. I then plotted with dots.



Plot 2

This is a plot of the error of the calculated pi from actual pi. The y axis is the error and the x is the number of iterations. It shows that the error gets smaller as the iterations increases. I stored the iteration and error of five calls to `./monte_carlo` with different seeds. To get these different seeds I used the command line argument `-r`. I used `set key autotitle columnhead` so that the first

line would be seen as titles when it came time to plot. I set the ranges of x and y. I referenced the man page for setting tics in order to properly space and scale the axes. I then plotted each of the 5 dat files with lines.

