Design.pdf

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Objective

The objective of Asgn1 is to get used to the Unix System and to understand the basic syntax of C programming. Need to create a Bash script that generates two graphs based on data outputs from ”monte carlo.c” file.

Initial Design

Below are the designs for Graph 1 and Graph 2

Graph 1:

- To generate this graph I will first call monte carlo using ./and run it 1000

times.

- Then I will take the date and store it in a tmp dat file.

- Then I will use awk (scripting language to generate reports) iterate through

the tmp dat file and separate data based on the circle value

- If circle = 0 then I will take the x, y values and plot the dot as red which is

outside the arc

- if circle value = 1 then I will take the x,y values and plot the dot as blue which

is inside the arc

Graph 2:

- I will run monte carlo using ./
- Then I will run awk to read column 3 from the output and subtract it with the original PI value
- I will need to run this a total of 4 times

For each of the graphs I will use gnuplot commands to see the graph format equal to the example given.

Final Design
Below are the designs for Graph 1 and Graph 2

Graph 1:

- To generate this graph I will first call monte carlo using ./and run it 1000

times.

- Then I will take the date and store it in a tmp dat file.

- Then I will use awk (scripting language to generate reports) iterate through

the tmp dat file and separate data based on the circle value

- If circle = 0 then I will take the x, y values and plot the dot as red which is

outside the arc

- if circle value = 1 then I will take the x,y values and plot the dot as blue which

is inside the arc

Graph 2:

- My graph two program uses 4 sets of commands that each generate a different line on the graph.
- The blocks of code consist of this format:
  With use ./ to run monte_carlo, I will use the "$RANDOM" command to generate a random seed for the number of iterations.
  I then invoked an AWK command that iterates through the first column of the data file and subtracts the pi value with the actual pie value and stores them in a temp dat file.
  This will then be called to be plotted with set color.