Homework 5

CIS 160 FS2015

Due: Tuesday November 10th at the *beginning of lecture*

Points available: 50pts

For this assignment you will turn in:

In class(10pts):

1. A statement of the problem (typed)
2. An explanation of your solution (typed)
3. A flowchart (hand-drawn or computer generated)
4. Pseudocode (typed)

Via BlackBoard(40pts):

1. C program named `<username>_monte_carlo.c`

Assignment:

Follow the steps that we have outlined in class for algorithm development to generate a program that estimates the value of π using a Monte Carlo simulation. See the following website for some additional details: http://polymer.bu.edu/java/java/montepi/MontePi.html

Specifications:

Functions:

1. `void getRandomXY(*float x, *float y)`
    a. gives a random (x,y) pair
2. `int insideCircle(float x, float y)`
    a. returns whether the point is inside the circle (0->false, 1->true)

* This is the minimum functions that you must use. You may use others if you like.

Outputs:

1. Your estimated value of π

Other:

1. This is individual work. You may NOT work in groups.
2. Please staple all work together.
3. You are expected to error check.
4. For code: No compile = No points, no exceptions!
5. Start Early! This will take some research: Monte Carlo Method, using Random variables, etc.