SIE 431/531 Simulation Modeling and Analysis

Homework 4

Question 1

Modify book example 4-5 to implement the Monte Carlo Simulation shown in example 2 of the handout. Run your simulation to:
a) create 10000 random points. Estimate the value of pi.
b) create 100 million random points. Estimate the value of pi.

Question 2

Use the process analyzer to create at least 10 scenarios for Question 1 by altering the number of random points. Generate a plot with one of your favorite software (e.g., Excel, MATLAB, etc.) to show the convergence of the pi value with the increase of random points. Set the x-axis for the number of random points generated and y-axis the estimated pi value.