

PY 482: Homework 4 : Due February 21st

- Write a program that approximates π using the monte Carlo method described in class.
- Estimate π using 10, 100, 1000,10,000, 100,000 , and 1,000,000 random trials.
- Plot the difference between your estimate and the true value as a function of the number of trials (you may want to add different number of trials from above) and show that the accuracy of the method gets better like $\frac{1}{\sqrt{N}}$ where N is the number of trials.