CS215 Assignment1 Problem 5

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1 Uniform and Gaussian Distributions

Function: unifdraw(N) generates N random numbers between 0 and 1, computes their average and returns it.
Plot.m calls the aforementioned function 100 times for each data set size=5, 10, 20, 40....10000 and finds the deviation between the expected value (0.5) and the randomly generated value of the mean.
Similarly the function gaussdraw(N) generates N random numbers distributed by the gaussian function and

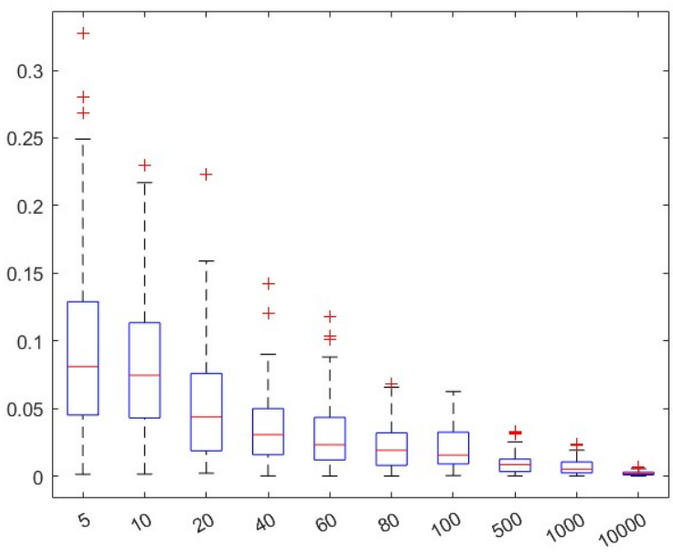

Figure 1: Uniform Draw

finds their average.
Plotgauss.m calls this function and plots the deviation between 0 (the expected mean) and the mean of the randomly generated numbers.
As per the generated graphs, the error reduces on increasing the sample size. As we increase the number

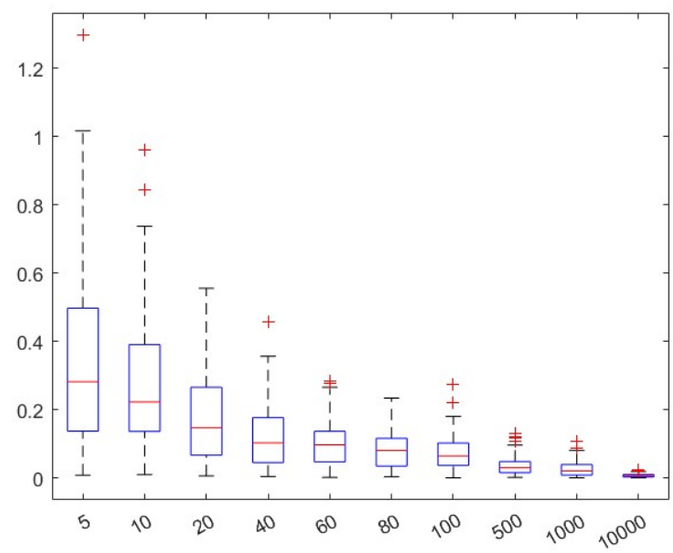

Figure 2: Gaussian Draw

of random variables, their distribution approaches the ideal uniform or normal distribution, hence reducing the error.