

Fourth Lab Assignment (Due by 3pm on Dec. 9)

Reference MATLAB tutorial and MATLAB lab demonstrations.

Lab assignments

Assignment 1 Let X be a continuous random variable, generate 10^5 samples if

- $X \sim \text{exp}(2)$
- $X \sim N(0, 2)$

You can use the MATLAB function `random` to generate data points from a given distribution. Please check the help or doc command in order to use the random function correctly. Please plot those samples by using `hist` function. You can check its usage by using `help hist` or `doc hist`. You have to submit

- MATLAB codes, which should be put in script files (.m)
- Two figures, which should be in png format (.png)

Assignment 2 Please draw two histograms with respect to different bin widths by using the data `hist.mat`¹.

- a) The first histogram corresponds to evenly paced bin widths. The bin width is 10 and the first bin starts at 0. For example, you can use these bins: $([0,10), [10,20), [20,30), \dots, [90,100])$.
- b) The second histogram corresponds to unevenly paced bin widths. The bins are $[0, 5), [5, 30), [30, 40), [40, 45), [45, 65), [65, 90), [90, 100]$.

You have to submit both of the MATLAB codes, which is a script file with .m extension, and the plotted two histograms, which are eps figures with the .eps extension.

¹http://astro.temple.edu/~tuf28053/CIS2033_Spring2015/lab_assignments/hist.mat