

1. Write a function that generates and returns a random number between 1 and 10.
2. Write a second function that runs the first function 100 times, calculates how often each integer has occurred, and summarizes the results as output to either the PyCharm terminal or as a separate output window.
3. Rewrite your routines so that you run the random number routine 1000 times, calculate the average of each pair of results and plot distribution of the averages as a histogram.

Hints: 1. You will need to import random to access the random functions.
2. You might look at <https://matplotlib.org/gallery/statistics/hist.html> for an example of a histogram.

Both programs should be saved as XXX.py files and sent to my email address as attached documents.