Homework 1 (MATLAB Part)

MATLAB Part (To be submitted through Brightspace. Due date: **Feb 15, 11:59PM** New York Time)

You should submit a **zip** file that contains:

1. A report (in .pdf format), includes the MATLAB code you wrote for each problem and result for each problem (in terms of plots and necessary discussion),
2. Individual .m files. You could use the "live script" feature of MATLAB to generate your report.

Submit your **zip** file via Brightspace under "Assignments MATLAB Homework".

There are 2 problems in this homework, try to follow the steps inside the HW1_hint.m file on Brightspace to finish this homework.

1. Suppose there are 3 fair dice. Now throw them together. Try to calculate the probability of getting different numbers in sum. You should get the probability for each kind of sum as shown below.

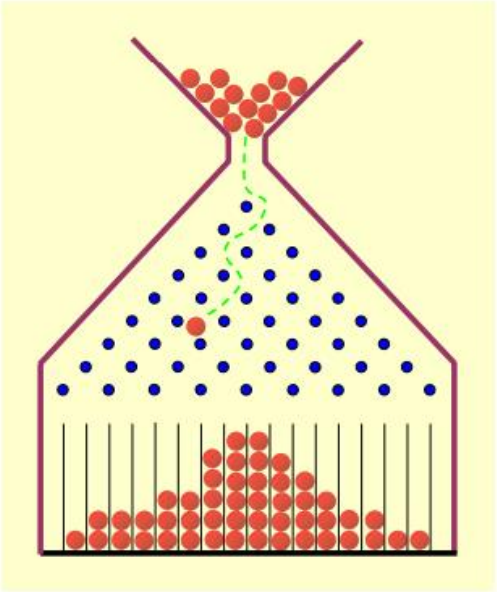
3 Dice

3 Dice

TOTAL	COMBINATIONS	PROBABILITY
3	1	0.004629629629630
4	3	0.013888888888889
5	6	0.027777777777778
6	10	0.046296296296296
7	15	0.069444444444444
8	21	0.097222222222222
9	25	0.115740740740741
10	27	0.125000000000000
11	27	0.125000000000000
12	25	0.115740740740741
13	21	0.097222222222222
14	15	0.069444444444444
15	10	0.046296296296296
16	6	0.027777777777778
17	3	0.013888888888889
18	1	0.004629629629630
Total	216	1.000000000000000

2.Galton’s Board Simulation.

This problem is to simulate the Galton’s Board process by MATLAB. You may find some useful hints in the hint file.



Here is another reference we found online. I have also uploaded the MATLAB file to Brightspace called GaltonBoard.m. You can run it in your MATLAB.

https://www.mathworks.com/matlabcentral/fileexchange/67995-galtonboard