Submission Guideline:

- If you are using Google Colab/Jupyter Notebook, **download the python file** as instructed in the class. (File -> Download -> Download .py)
- Submit the .py (python) file.

Online assignment 3

Generate constants from student ID:

0	1	1	P	Q	R	W	X	Y
0	1	1						

Example: If your student ID is “011 121 345”: P=1, Q=2, R=1, W=3, X=4, Y=5.

Suppose you have two separate congruential generators G1 and G2. The specification and recursive relations of the generators are given below:

G1	$Z_{1,i} = (3Z_{1,i-1}^2 + P \cdot Z_{1,i-2} + W \cdot Z_{1,i-3}) \bmod 15$ $Z_{1,0} = Q,\ Z_{1,1} = 7,\ Z_{1,2} = 5$
G2	$Z_{2,i} = (8Z_{2,i-1}^3 + X \cdot Z_{2,i-2} + Y) \bmod 17$ $Z_{2,0} = R,\ Z_{2,1} = 4$

Now generate 20 random numbers using the following composite RNG using G1 and G2:

$$Z_i = (2Z_{1,i} + 7Z_{2,i}) \bmod 17$$

Marks distribution:

Generate 20 random numbers from G1	[4]	
Generate 20 random numbers from G2	[4]	
Combine them for composite RNG	[4]	
Total Marks:	12	[Extra 2 will count as bonus marks]

Late submissions on eLMS will not be evaluated.