Assignment on Inventory System Simulation

In this assignment you have to simulate a (M,N) inventory system. The distribution of daily demands and lead time are given below:

Demand	Probability
0	0.10
1	0.25
2	0.35
3	0.21
4	0.09

Lead Time	Probability
1	0.6
2	0.3
3	0.1

Tasks:

1. Input value of m and n. m = maximum inventory
   n = review period

2. Assume that orders are placed at the close of business and are received for inventory at the beginning of business as determined by the lead time.

3. The simulation has been started with the inventory level at 3 units and an order of 8 units scheduled to arrive in 2 days' time. (Initially)

4. Values of daily demand and lead time must be sampled randomly from the above distribution Table. See **np.random.choice(a,p)** function to do this task.(You should use np.random.seed() for consistent random values.)

5. Simulate the system for 10 cycles. Estimate average ending units in inventory and how many days shortage occurs,

6. Draw inventory_level vs day graph .
   X -axis : day number
   Y- axis : Ending_inventory of each day

Instruction:

1. You have to submit one .py file to ELMS. The name of the .py file should be your Student ID.
2. Do not copy codes. Understand the class code and Do the assignment. Blindly detected Copy will be penalized by negative marks.