AI 602: Programming in Python
Mini-Project 1
Due 10.30.2024

Write a Python program to complete the following task. Upload the program as a .py file to Brightspace.

Write a code to simulate dice-rolling. Since rolling of a dice is a random event and can result in any values from $x = 1$ to $x = 6$, you may want to use the random module in your code. Include in your code the number of times a particular face (e.g., $x = 1$) will appear when the dice is rolled $n \in \{10, 100, 10000\}$ times. Write a function to calculate the probability that the observed face is $x \in \{1, 3, 6\}$. Output the probability values as the increasing of the sample size $n \in \{10, 100, 10000\}$. Fill the following table with your results.

n	$x = 1$	$x = 3$	$x = 6$
10			
100			
10000			