TUTORIAL: DISCRETE RANDOM VARIABLE

1. Toss a balance coin for 3 times. Find the probability distribution of the random variable X, the total number of heads obtained.

2. From question (1), find the distribution function of the random variable X, where X is number of head exist in throwing 3 coins.

3. The probability distribution of a random variable Y is given by $P(Y = y) = cy^2$, $y = 0,1,2$, and 3. Given c is constant, find the value of c.

4. A drawer contains 8 brown socks and 4 blue socks. A sock is taken from the drawer at random, its color is noted and it is then replaced. This procedure is performed twice more. If X is the random variable the number of brown socks taken, find the probability distribution of X. hence, present probability distribution graphically.

5. From question (3), find $P(X \leq 2)$ and $P(X \geq 1)$.

6. A volunteer ambulance service handless from 0 to 5 service calls on any given day. The following probability distribution gives the number of service calls.

No.of service call, x	0	1	2	3	4	5
f(x)	0.1	0.15	0.3	0.2	0.15	0.1

   a. What is the expected number of service calls?

   b. What is the variance in the number of service calls?

   c. What is the standard deviation in the number of service calls?