02.06.20

1. A coin is biased so that the head is twice as likely to appear as the tail. The coin is tossed twice. Find the expected value of the number of heads. Also find the variance of number of heads.

2. If the sum of the mean and variance of a binomial distribution for 5 trials is 1.8. Find the probability distribution function

3. It is known that 2% of the accounts in a company are delinquent. If 5 accounts are selected at random, compute the following probabilities (i) atmost 2 accounts will be delinquent (ii) atmost 4 accounts will be delinquent.

4. A random variable x takes the values $-3, -2, -1, 0, 1, 2, 3$ such that $P(x=0) = P(x>0) = P(x<0)$ and $P(x=-3) = P(x=-2) = P(x=-1) = P(x=1) = P(x=2) = P(x=3)$. Obtain the probability distribution and the distribution function of x.