PES University, Bangalore

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UE19CS203 – STATISTICS FOR DATA SCIENCE

Unit-2 - Random Variables

QUESTION BANK

Derivations of Bernoulli & Binomial Distribution

1. A biased die is thrown thirty times and the number of sixes seen is eight. If the die is thrown a further twelve times find,

   a) The probability that six will occur exactly twice.
   b) Expected Number of sixes.
   c) Variances of the Number of sixes.

2. Suppose the random variable x arises from the binomial experiment. Suppose n = 10, p = 0.81. Find the mean and variance.

3. Consider a binomial distribution, the mean is 15 and variance is 10. What is the parameter n?

4. Approximately 10% of people are left-handed. Consider a group of 10 people, find the mean, variance and standard deviation.

5. What is the standard deviation of a binomial distribution with n = 18 and p = 0.4?