Name of Problems

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|  | Randomly generate a sample of size 10 from Binomial distribution, with the parameter n=16 and p=0.5. Calculate the point estimate of mean and variance. Hence prove that   1. sample mean is an unbiased estimator of population mean. 2. sample variance is an unbiased estimator of population variance. |
|  | Suppose Randomly generate a sample of size 20 from this distribution. Now calculate the point estimate of mean and variance. Hence prove that   1. sample mean is an unbiased estimator of population mean. 2. sample variance is an unbiased estimator of population variance. |
|  | Randomly generate a sample of size 1000 from Normal distribution, with the parameter mean=1.3 and variance=9. Calculate the point estimate of mean and variance. Hence prove that  (i) sample mean is an unbiased estimator of population mean.  (ii) sample variance is an unbiased estimator of population variance. |
|  | Generate a random sample of size 100 from Normal distribution, with mean  . Calculate the point estimate of mean, midrange and median.  Hence find out the best point estimator among these three. |
|  | Generate a random sample of size 1000 from Normal distribution, with mean .  Find the maximum likelihood estimate of the mean and variance. |
|  | For a given data set, calculate a 95% confidence interval of :   1. mean (ii) Proportion (iii) variance |
|  | Generate a random sample of size 201 from Exponential distribution, with it’s parameter 1/13000. Hence find out a 90% confidence interval of the population mean. |