STATISTICS

1) d) All of the mentioned
2) a) Discrete
3) a) pdf
4) c) mean
5) c) empirical mean
6) a) variance
7) c) 0 and 1
8) b) bootstrap
9) a) frequency
10) Histograms are preferred to determine the underlying probability distribution of a data. Box plots are useful when comparing between several data sets.
11)
12) Statistical significance can be accessed using hypothesis testing:
    - Stating a null hypothesis which is usually the opposite of what we wish to test
    - Then, we choose a suitable statistical test and statistics used to reject the null hypothesis
    - Also, we choose a critical region for the statistics to lie in that is extreme enough for the null hypothesis to be rejected (p-value)
    - We calculate the observed test statistics from the data and check whether it lies in the critical region
    - Do tests like One sample Z test, Two-sample Z test, One sample t-test, Chi-squared test for variances, Anova etc.
13) Poisson Distribution, which describes the number of unlikely events occurring after providing a sufficient opportunity for a few events to occur.
14) If we have a skewed distribution, the median is often the best measure of central tendency.
15) In statistics, the likelihood function measures the goodness of fit of a statistical model to a sample of data for given values of the unknown parameters.