Statistics Advance-2

Assignment Questions

Q1: What are the Probability Mass Function (PMF) and Probability Density Function (PDF)? Explain with an example.

Q2: What is Cumulative Density Function (CDF)? Explain with an example. Why CDF is used?

Q3: What are some examples of situations where the normal distribution might be used as a model? Explain how the parameters of the normal distribution relate to the shape of the distribution.

Q4: Explain the importance of Normal Distribution. Give a few real-life examples of Normal Distribution.

Q5: What is Bernaulli Distribution? Give an Example. What is the difference between Bernoulli Distribution and Binomial Distribution?

Q6. Consider a dataset with a mean of 50 and a standard deviation of 10. If we assume that the dataset is normally distributed, what is the probability that a randomly selected observation will be greater than 60? Use the appropriate formula and show your calculations.

Q7: Explain uniform Distribution with an example.

Q8: What is the z score? State the importance of the z score.

Q9: What is Central Limit Theorem? State the significance of the Central Limit Theorem.

Q10: State the assumptions of the Central Limit Theorem.

Note: *Create your assignment in Jupyter notebook and upload it in GitHub & share that github repository link through your dashboard. Make sure the repository is public.*