STATISTICS INTERVIEW QUESTIONS

ASKED IN DATA SCIENCE INTERVIEWS

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Commonly Asked Topics

- **Probability Theory**
- **Sampling Theory**
- **Hypothesis Testing**
- **Distribution Theory**
- **Time series Analysis**
- **Design of Experiment**

- Prove $E(x+y)=E(x) + E(y)$ **(Delhivery)**
- What strong and weak stationarity? **(ICICI Securities)**
- Explain ARIMA forecasting step by step. **(ICICI Securities)**
- What is CLT, z-test, t-test, F test? **(ICICI Securities)**
- When is a t-test used instead of a z-test? **(ICICI Securities)**
- What do you mean by Replication and Randomization? **(IPSOS MMA)**
- Trick question on the application of chi-square test. **(ICICI Securities)**
- Test of equality of proportions. **(ICICI Securities)**
- Structure of a box plot**. (ICICI Lombard)**
- What does correlation mean? What type of relationship can be found by this? **(ANZ Bank)**
- What is the importance of stationarity in a time series? **(ANZ Bank)**
- What is skewness in data and how will you remove it? **(LafargeHolcim)**
- Role of R squared, r, F test in determining features in Machine learning.
- What is stationary time series and why it is important? **(Cognizant)**
- Define Randomised Block design? Where do we use RBD? **(Cognizant)**

- What is stratified random sampling and how it is different from systematic random sampling? **(Cognizant)**
- What is the p-value? Explain with the help of an example related to marketing research. **(IPSOS MMA)**
- What are the assumptions of ANOVA? **(JSS, ANZ)**
- explain CRD (Completely Randomized Design)? **(IPSOS MMA)**
- What is AB testing? **(ICICI Securities)**
- Consider two fair dice that have been rolled. What is the probability of obtaining sum 8?**(IPSOS MMA)**
- The lengths of a professor's classes have a continuous uniform distribution between 50.0 min and 52.0 min. If one such class is randomly selected, find the probability that the class length is more than 51.7 min. **(64squares)**
- Difference between stratified and cluster sampling. **(JSS)**
- When we use censoring and what are type-1 and type-2 censoring in Reliability. **(JSS)**
- ANOVA is generally used when we want to test the significance of the difference between more than two independent sample means. Why we don't use pairwise t-test in this case? **(JSS, Accenture)**

- What are type-1 error and p-value in inference? **(JSS, Accenture)**
- What do you mean by hypothesis testing? **(Eli Lilly)**
- There are 3 ants sitting on three corners of a triangle. All ants randomly pick a direction and start moving along the edge of the triangle. What is the probability that any two ants collide? **(Accenture, Delhivery)**
- You have 9 red balls and 1 black ball in a bag. You are picking balls 10 times with replacement. What is the probability of getting at least one black ball from the bag? **(Accenture)**
- Explain Central Limit Theorem. **(ANZ, Wipro)**
- What is the normal distribution and what is the shape of the curve? **(WNS Global)**
- What is the relationship between media, mode and mean in positively skewed data? **(ANZ)**
- What are statistic and data science? **(ANZ)**
- You have to estimate the average height of the population of India, how will you go about it? **(ICICI Lombard)**
- What is the use of binomial distribution and its PMF? **(Wipro)**
- What do you mean by selection bias? **(Wipro)**