

Statistics Interview Questions



give me the interview questions for statistics



Here is a list of commonly asked interview questions in **Statistics**, categorized for better understanding:

Basic Concepts

1. What is the difference between descriptive and inferential statistics?
2. Explain the terms population and sample. Why is sampling important?
3. Define mean, median, and mode. How are they different?
4. What are measures of central tendency and measures of variability?
5. Explain variance and standard deviation. How are they calculated?
6. What is a percentile? How does it differ from a quartile?
7. What is the importance of the Central Limit Theorem?
8. What are the types of data (nominal, ordinal, interval, and ratio)?
9. Explain the concept of probability. How is it applied in statistics?
10. What is the difference between a parameter and a statistic?

Hypothesis Testing

1. What are the null hypothesis (H_0) and alternative hypothesis (H_1)?
2. What is a p-value, and how is it used in hypothesis testing?
3. Explain Type I and Type II errors in hypothesis testing.
4. What is the difference between one-tailed and two-tailed tests?
5. When should you use a t-test? What are its types?
6. Explain the concept of confidence intervals.
7. What is the difference between correlation and causation?
8. Describe the steps involved in performing an ANOVA test.
9. What is the chi-square test, and when is it used?
10. How do you interpret the results of a hypothesis test?

Regression and Correlation

1. What is linear regression? What is its equation?
2. Explain the concept of R-squared and adjusted R-squared in regression analysis.
3. What is multicollinearity, and how can it be detected?
4. What are residuals in regression analysis, and why are they important?
5. Explain logistic regression and its applications.
6. What is the difference between simple linear regression and multiple regression?
7. What is a correlation coefficient? What does it signify?
8. How do you interpret a negative correlation?

9. What are heteroscedasticity and homoscedasticity?
 10. Explain the differences between parametric and non-parametric tests.
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Probability Distributions

1. What is a probability distribution? Name some common types.
 2. Explain the difference between discrete and continuous distributions.
 3. What is the normal distribution, and why is it important?
 4. What are the properties of a binomial distribution?
 5. How does a Poisson distribution differ from a binomial distribution?
 6. What is the exponential distribution used for?
 7. Explain the concept of the standard normal distribution (Z-distribution).
 8. What is skewness? How does it affect the shape of a distribution?
 9. Define kurtosis. What does it tell about a dataset?
 10. What is a uniform distribution?
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Advanced Topics

1. What are Bayesian statistics? How is it different from frequentist statistics?
 2. Explain Markov chains and their applications.
 3. What is the difference between parametric and non-parametric models?
 4. What are time series data and their components?
 5. Explain the concept of autocorrelation in time series.
 6. How do you handle missing data in a dataset?
 7. What are bootstrapping and jackknifing in statistics?
 8. What is overfitting in statistical models, and how can it be avoided?
 9. What is PCA (Principal Component Analysis)? How is it used in statistics?
 10. Explain the concept of statistical significance.
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Real-Life Applications

1. How would you design an A/B test?
 2. What statistical tests would you use for analyzing survey data?
 3. How do you interpret data visualization plots like histograms, box plots, or scatter plots?
 4. How do you check the normality of a dataset?
 5. Can you explain the steps you would take to clean and preprocess data for statistical analysis?
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Feel free to let me know if you'd like detailed explanations or answers to any of these questions!