PYTHON DATA ANALYSIS: EXERCISE

Here's a quiz about statistical tests:

1. What is the t-test used for?

a) Comparing means of two independent samples
b) Comparing variances of two independent samples
c) Comparing means of two dependent samples
d) Comparing variances of two dependent samples

2. In a t-test, what assumption(s) must be met for valid results?

a) Normality of data
b) Equal sample sizes
c) Independence of observations
d) All of the above

3. When is a z-test typically used?

a) When the sample size is small
b) When the population standard deviation is unknown
c) When comparing means of two independent samples with large sample sizes
d) When the data is not normally distributed

4. What is the chi-squared test used for?

a) Comparing means of two independent samples
b) Testing the association between categorical variables
c) Comparing variances of two independent samples
d) Testing the difference between more than two group means

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5. In a chi-squared test of independence, what does a high p-value indicate?

a) There is evidence of association between the variables
b) There is no evidence of association between the variables
c) The variables are perfectly correlated
d) The variables are independent

6. ANOVA is used for comparing means of how many groups?

a) Two
b) Three or more
c) Four
d) Any number

7. In ANOVA, what does a low p-value indicate?

a) There are significant differences between group means
b) There are no significant differences between group means
c) The groups have the same mean
d) The groups are not normally distributed

8. Which assumption(s) must be met for conducting ANOVA?

a) Normality of data
b) Equal variances between groups
c) Independence of observations
d) All of the above

9. What is the main difference between t-test and ANOVA?

a) ANOVA can only handle two groups, while t-test can handle three or more groups
b) ANOVA is used for comparing means of two independent samples, while t-test is used for comparing means of more than two independent samples
c) T-test is used for comparing means of two independent samples, while ANOVA is used for comparing means of three or more independent samples
d) There is no difference between them, they are used interchangeably

10. When should you use a paired t-test instead of an independent t-test?

a) When comparing means of two independent samples
b) When comparing means of two dependent samples
c) When comparing means of three or more independent samples
d) When comparing means of three or more dependent samples

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Sincerely,

JShafara

Juma Shafara
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