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Assignment

1. What do you understand by hypothesis testing?

Hypothesis testing is an act in statistics whereby an analyst tests an assumption regarding a population parameter. The purpose of hypothesis testing is to assist administrators, clinicians and researchers in making wise decisions which usually depends on the statistical decision.

2. Differentiate between the classical and the p-value approach for hypothesis testing.

Classical Approach

The Classical Approach to hypothesis testing is to compare a test statistic and a critical value. It is best used for distributions which give areas and require ^{you} to look up the critical value (like the Student's t distribution) rather than the distributions which have you look up a test statistic to find an area (like the normal distribution).

The Classical Approach also has three different decision rules, depending on whether it is a left tail, right tail, or two tail test. One problem with the Classical Approach is that if ~~a~~ a different level of significance is desired, a different critical value must be read from the table.

P-value Approach

The P-value Approach, short for Probability Value, approaches hypothesis testing from a different manner. Instead of comparing z-scores or t-scores as in the classical approach, you're comparing probabilities, or areas.

The level of significance (α) is the area in the critical region. That is, the area in the tails to the right or left of the critical values.

The p-value is the area to the right or left of the test statistic. If it is a two tail test, then look up the probability in one tail and double it. If the test statistic is in the critical region, then the p-value will be less than the level of significance. It does not matter whether it is a left tail, right tail, or two tail test. This rule always holds.

30. What is the importance of hypothesis ^{testing} in Research?

The importance of hypothesis testing in research is to assist the researchers in making wise decisions which usually depends on the statistical decision.