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STATISTICS ASSIGNMENT

1. Hypothesis testing in statistics is a way for you to test the results of a survey or experiment to see if you have meaningful results. Hypothesis testing is used to assess the plausibility of a hypothesis by using sample data. Such data may come from a larger population, or from a data-generating process. The word "population" will be used for both of these cases in the following descriptions.
2. The Classical Approach to hypothesis testing is to compare a test statistic and a critical value. The Classical Approach also has three different decision rules, depending on whether it is a left tail, right tail, or two tail tests. One problem with the Classical Approach is that if a different level of significance is desired, a different critical value must be read from the table. While, 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 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.
3. Hypothesis testing is used in an experiment to define the relationship between two variables the purpose of a hypothesis is to find the answer to a question. A formalized hypothesis will force us to think about what results we should look for in an experiment. The first variable is called the independent variable