**NAME: IMOYIN-OMENE EMUOBONUVIE**

**MATRIC NO: 17/MHS01/159**

**COURSE CODE: STAT 312**

**DEPARTMENT: ANATOMY**

**ANSWERS**

1. Hypothesis is a supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation.Hypothesis testing can be simply defined as a statement about one or more population set up for the purpose of being discredited or approved.In statistics,a method for testing how accurately a mathematical model based on one of set data predicts the nature of other data sets generated by the same process.
2. **Classical Approach**

The Classical Approach is the first approach to hypothesis testing,it computes a test statistics from the empirical data and then makes a comparison with the critical value.It compares a test statistics and a critical value. It is the best used for distributions which gives areas and require to look up the critical value rather than distributions which look up a test statistic to find an area.

**P-Value Approach**

The P-Value Approach, short for Probability Value, approaches hypothesis testing from a different manner.It involves determining "likely" or "unlikely" by determining the probability assuming the null hypothesis were true. Instead of comparing z-scores or t-scores as in the classical approach, this compares probabilities and areas.

The level of significance (alpha) is the area in the critical region. That is, the area in the tail of 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 statistics 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.

|  |  |
| --- | --- |
| Classical approach to hypothesis testing | p-value approach to hypothesis |
| 1. The approach is used in comparison with critical value
 | 1.This approach is used to support or reject null hypothesis |
| 1. This approval computes a test statistic from the empirical data
 | The p-value is the evidence against null hypothesis |
| 1. In classical approach for hypothesis testing if the test statistic is larger than the critical value,then the null hypothesis is rejected
 | 1. The smaller the p-value the stronger the evidence that the null hypothesis should be rejected
 |

1. Research without hypothesis is like a sailor in the sea without compass.Its purpose is indispensable as it always guides and gives direction to specific research, research remains unfocused without a hypothesis.The importance of hypothesis testing is to assist administrators, clinicians and researchers in making wise decisions which usually depends on the statistical decision.