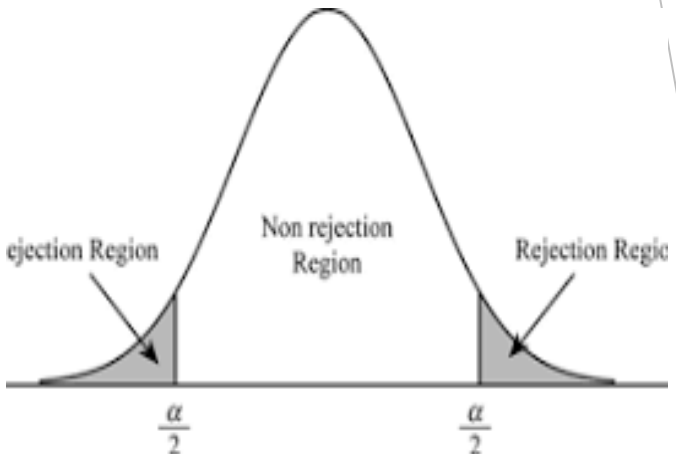
LEVEL OF SIGNIFICANCE

The level of significance is the measurement of the statistical significance. It defines whether the null hypothesis is assumed to be accepted or rejected. It is expected to identify if the result is statistically significant for the null hypothesis to be false or rejected.



Example: The value significant at 5% refers to p-value is less than 0.05 or $p < 0.05$. Similarly, significant at the 1% means that the p-value is less than 0.01.

LIMITATIONS

1.We can never be completely 100% certain that a relationship exists between two variables. There are too many sources of error to be controlled, for example, sampling error, researcher bias, problems with reliability and validity, simple mistakes, etc

2.But using probability theory and the normal curve, we can estimate the probability of being wrong, if we assume that our finding a relationship is true. If the probability of being wrong is small, then we say that our observation of the relationship is a statistically significant finding.

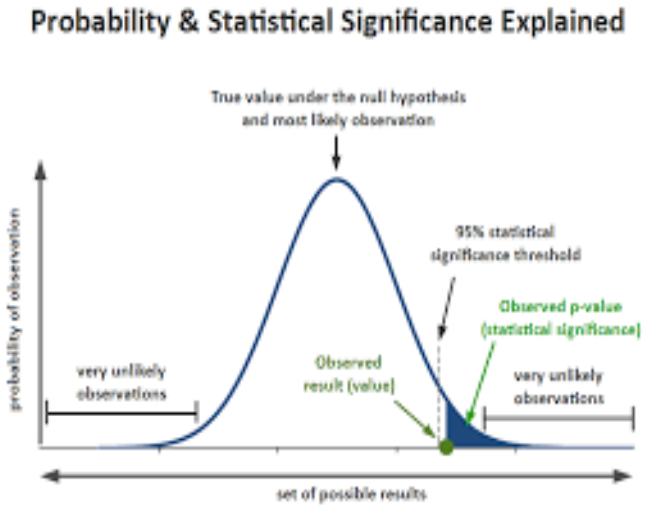
APPLICATIONS

Statistical significance is used to provide evidence concerning the plausibility of the null hypothesis, which hypothesizes that there is nothing more than random chance at work in the data. Statistical hypothesis testing is used to determine whether the result of a data set is statistically significant.

TEST OF SIGNIFICANCE

SIGNIFICANCE:

The test of significance showed that the difference between the sample mean and the population mean is statistically significant. A two-sided alternative hypothesis is used when there is no reason to believe that the sample mean can only be higher or lower than a given value.



APPLICATIONS

1. To check the manufacturing processes
2. To plan the marketing strategies
3. In clinical trials
4. In testing effectiveness of essential oil
5. In testing fertilizers impact on plants
6. In testing the effectiveness of vitamin E
7. In testing the teaching strategies.

LIMITATIONS

If a test fails to reach statistical significance (i.e., a researcher fails to reject the null), it cannot be said that there is no effect or difference (i.e., the difference or effect equals zero); it only means that there was a greater probability that the difference that was observed would be observed by chance.