

Business Analytics Assignment

Assignment 2

List down 1 real life example of Hypothesis testing with formulas.

For ex:

Hypothesis tests are often used in clinical trials to determine whether some new treatment, drug, procedure, etc. causes improved outcomes in patients.

For example, suppose a doctor believes that a new drug is able to reduce blood pressure in obese patients. To test this, he may measure the blood pressure of 40 patients before and after using the new drug for one month.

He then performs a hypothesis test using the following hypotheses:

H₀: $\mu_{\text{after}} = \mu_{\text{before}}$ (the mean blood pressure is the same before and after using the drug)

H_A: $\mu_{\text{after}} < \mu_{\text{before}}$ (the mean blood pressure is less after using the drug)

If the p-value of the test is less than some significance level (e.g. $\alpha = .05$), then he can reject the null hypothesis and conclude that the new drug leads to reduced blood pressure.