**Probability and Statistics**

**Lab 10 – Illeperuma H.P**

**IT24103019**

**Exercise**

1. **1.Null Hypothesis (H₀):**

The vending machine owner claims that customers choose each of the four snack types (A, B, C, D) with equal probability. Therefore, the null hypothesis is:

The probability of choosing snack A = The probability of choosing snack B = The probability of choosing snack C = The probability of choosing snack D = 0.25 (equal probability for all snack types).

**Alternative Hypothesis (H₁):**

The alternative hypothesis is that the probabilities of selecting each snack type are not equal (iat least one snack type is chosen with a different probability than the others).

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.

**A screenshot of a computer

AI-generated content may be incorrect.**

1. Since the p-value (0.08966) is greater than 0.05, we fail to reject the null hypothesis at the 5% level of significance.

This means there is not enough statistical evidence to conclude that customers prefer some snack types over others. Therefore, we accept the vending machine owner's claim that customers choose the four snack types (A, B, C, D) with equal probability.