IT2120 - Probability and Statistics

Lab Sheet 10

Exercise

1.

i. Null hypothesis (H₀): Customers choose each snack type with equal probability (p\_A = p\_B = p\_C = p\_D = 0.25).

Alternative hypothesis (H₁): At least one snack type has a different probability of being chosen.

ii. Chi-squared test for given probabilities

data: observed\_snacks

X-squared = 6.5, df = 3, p-value = 0.08966

iii. At the 5% significance level, the p-value (0.0897) is greater than 0.05, so we fail to reject the null hypothesis. There is insufficient evidence to conclude that customers do not choose the snack types with equal probability, supporting the owner's claim.

**Screen shots**

A screenshot of a computer

Description automatically generated