Lab 10

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1.

I.

```
setwd("C:\\Users\\Administrator\\Desktop\\Ps - Lab10")

#Exercise
#1.1. State the hypotheses
# H0: pA = pB = pC = pD = 0.25
# H1: At least one proportion is different
```

II.

C:\Users\Administrator\Desktop\Ps - Lab10\IT24100301_Lab10.R - R Editor

```
#1.2. Perform a chi-squared goodness-of-fit test
# Observed frequencies
observed <- c(120, 95, 85, 100)

# Expected probabilities (equal for each type)
expected_prob <- c(0.25, 0.25, 0.25, 0.25)

# Perform chi-squared test
chisq_test <- chisq.test(x = observed, p = expected_prob)

# Display the test result
chisq_test
```

```
> observed <- c(120, 95, 85, 100)
>
> expected_prob <- c(0.25, 0.25, 0.25, 0.25)
> chisq_test <- chisq.test(x = observed, p = expected_prob)
> chisq_test

        Chi-squared test for given probabilities

data:  observed
X-squared = 6.5, df = 3, p-value = 0.08966
```

III.

```
#1.3. Interpret the results
if (chisq_test$p.value < 0.05) {
  cat("Reject H0: Customers do not choose snacks equally.\n")
} else {
  cat("Fail to reject H0: No significant difference in snack choice.\n")
}
```

```
> if (chisq_test$p.value < 0.05) {
+   cat("Reject H0: Customers do not choose snacks equally.\n")
+ } else {
+   cat("Fail to reject H0: No significant difference in snack choice.\n")
+ }
Fail to reject H0: No significant difference in snack choice.
>
```