

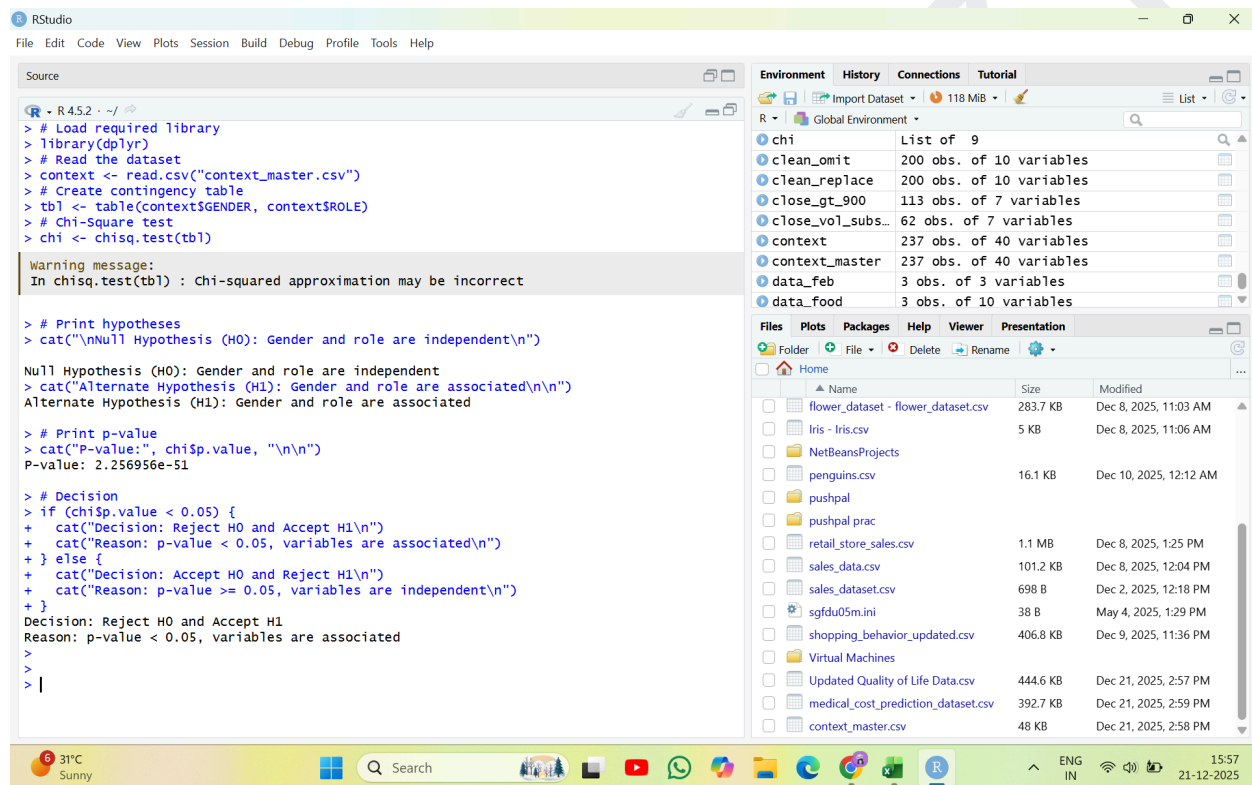
SHETH L.U.J AND SIR M.V COLLEGE

Subject: Data Analysis with SAS / SPSS /R

Practical no. 9

Aim: Conducting Chi-square tests using `chisq.test()` (R)

Outputs→



```
R - R4.5.2 - ~/
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Source
> # Load required library
> library(dplyr)
> # Read the dataset
> context <- read.csv("context_master.csv")
> # Create contingency table
> tbl <- table(context$GENDER, context$ROLE)
> # Chi-Square test
> chi <- chisq.test(tbl)

Warning message:
In chisq.test(tbl) : Chi-squared approximation may be incorrect

> # Print hypotheses
> cat("\nNull Hypothesis (H0): Gender and role are independent\n")

Null Hypothesis (H0): Gender and role are independent
> cat("\nAlternate Hypothesis (H1): Gender and role are associated\n\n")
Alternate Hypothesis (H1): Gender and role are associated

> # Print p-value
> cat("P-value:", chi$p.value, "\n\n")
P-value: 2.256956e-51

> # Decision
> if (chi$p.value < 0.05) {
+   cat("Decision: Reject H0 and Accept H1\n")
+   cat("Reason: p-value < 0.05, variables are associated\n")
+ } else {
+   cat("Decision: Accept H0 and Reject H1\n")
+   cat("Reason: p-value >= 0.05, variables are independent\n")
+ }
Decision: Reject H0 and Accept H1
Reason: p-value < 0.05, variables are associated
>
> |
```

The screenshot also shows the RStudio Environment pane with a list of loaded objects:

Object	Details
chi	List of 9
clean_omit	200 obs. of 10 variables
clean_replace	200 obs. of 10 variables
close_gt_900	113 obs. of 7 variables
close_vo1_subs...	62 obs. of 7 variables
context	237 obs. of 40 variables
context_master	237 obs. of 40 variables
data_feb	3 obs. of 3 variables
data_food	3 obs. of 10 variables