IT24100886

IT2120 - Probability and Statistics
LabSheet 10

Script

IT24100886_R_Script.R*

Source on Save | Run

```r
setwd("C:\\Users\\hasit\\OneDrive\\Documents\\SLIIT\\Work\\Y2S1\\IT2120 - Probability and Statistics\

getwd()


data <- read.csv("Data.csv", header = TRUE, row.names = 1)

print(data)

# State Hypotheses
# H0: All task responsibilities (Wife, Alternating, Husband, Jointly) are equally distributed.
# H1: At least one category differs significantly.

chi_result <- chisq.test(data)
print(chi_result)

# Conclusion
if (chi_result$p.value < 0.05) {
  cat("\nConclusion: Reject H0. Task distribution is NOT equal among groups.\n")
} else {
  cat("\nConclusion: Fail to reject H0. Task distribution appears equal among groups.\n")
}
```

Console

```
Console   Terminal   Background Jobs
R 4.5.1 · ~/SLIIT/Work/Y2S1/IT2120 - Probability and Statistics/Lab10/IT24100886/
[1] "C:/Users/hasit/OneDrive/Documents/SLIIT/Work/Y2S1/IT2120 - Probability and Statistics/Lab10/IT24100886"
>
>
> data <- read.csv("Data.csv", header = TRUE, row.names = 1)
>
> print(data)
           Wife Alternating Husband Jointly
Laundry     156          14       2       4
Main_meal   124          20       5       4
Dinner       77          11       7      13
Breakfast    82          36      15       7
Tidying      53          11       1      57
Dishes       32          24       4      53
Shopping     33          23       9      55
Official     12          46      23      15
Driving      10          51      75       3
Finances     13          13      21      66
Insurance     8           1      53      77
Repairs       0           3     160       2
Holidays      0           1       6     153
>
> # State Hypotheses
> # H0: All task responsibilities (Wife, Alternating, Husband, Jointly) are equally distributed.
> # H1: At least one category differs significantly.
>
> chi_result <- chisq.test(data)
> print(chi_result)

        Pearson's Chi-squared test

data:  data
X-squared = 1944.5, df = 36, p-value < 2.2e-16

>
> # Conclusion
> if (chi_result$p.value < 0.05) {
+   cat("\nConclusion: Reject H0. Task distribution is NOT equal among groups.\n")
+ } else {
+   cat("\nConclusion: Fail to reject H0. Task distribution appears equal among groups.\n")
+ }

Conclusion: Reject H0. Task distribution is NOT equal among groups.
>
```