

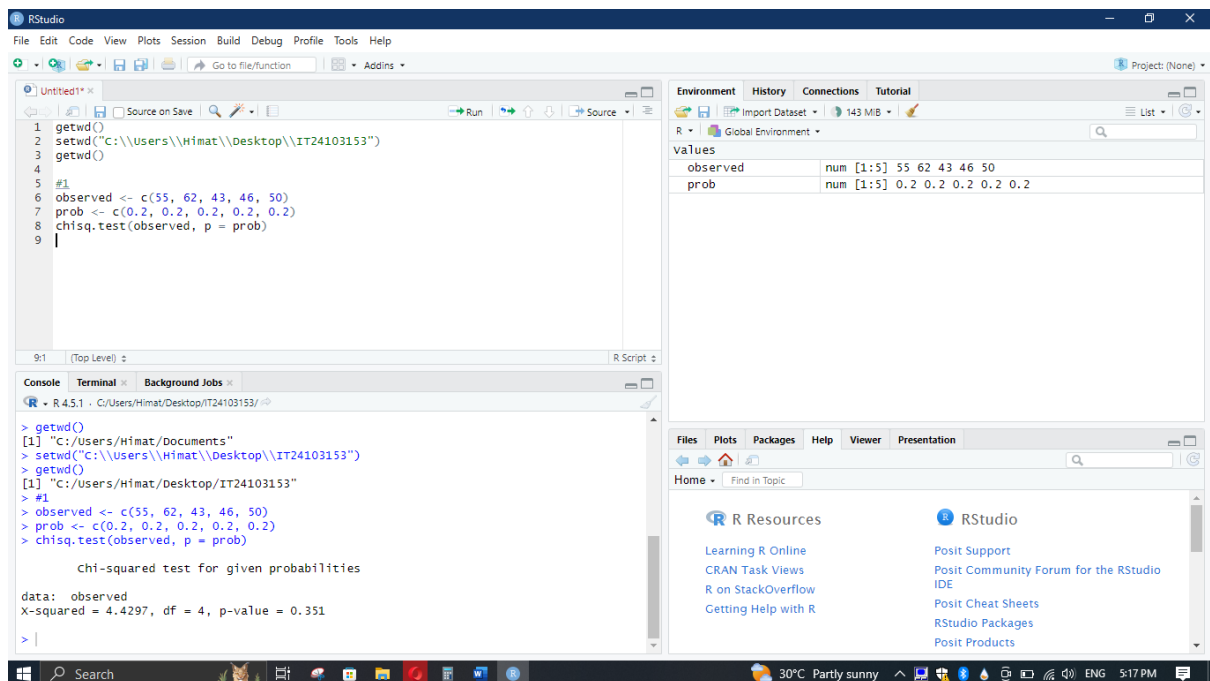
# IT2120 - Probability and Statistics

## Lab Sheet – 10

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1)



2)

The screenshot shows the RStudio interface with the following components:

- Source Editor:** Contains R code for loading data and performing a chi-squared test.
 

```

6 observed <- c(55, 62, 43, 46, 50)
7 prob <- c(0.2, 0.2, 0.2, 0.2, 0.2)
8 chisq.test(observed, p = prob)
9
10 #2
11 file_path <- "http://www.sthda.com/sthda/RDoc/data/housetasks.txt"
12 housetasks <- read.delim(file_path, row.names = 1)
13 chisq.test(housetasks)
14 housetasks
15

```
- Console:** Displays the output of the chi-squared test.
 

```

> chisq.test(housetasks)

Pearson's chi-squared test

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

> housetasks
      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

```
- Environment Pane:** Shows the 'housetasks' data frame with 13 observations and 4 variables.
 

Variable	Value
file_path	"http://www.sthda.com/sthda/RDoc/data/housetasks..."
observed	num [1:5] 55 62 43 46 50
prob	num [1:5] 0.2 0.2 0.2 0.2 0.2

3)

The screenshot shows the RStudio console with the following text:

```

16 #3 conclusions based on the results:
17 # Since the p-value (0.08966) is greater than 0.05, we fail to reject the null hypothesis at the 5% level of significance.
18 # Therefore, there is not enough evidence to conclude that customers do not choose the snack types with equal probability.
19 |
20

```