ACADGILD

# SESSION 9: Statistical Inference

## Assignment 2

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## 1. Introduction

This assignment will help you understand the concepts learnt in the session.

## 2. Objective

This assignment will test your skills on **theorems and tests** in R.

## 3. Prerequisites

Not applicable.

## 4. Associated Data Files

Not applicable.

## 5. Problem Statement

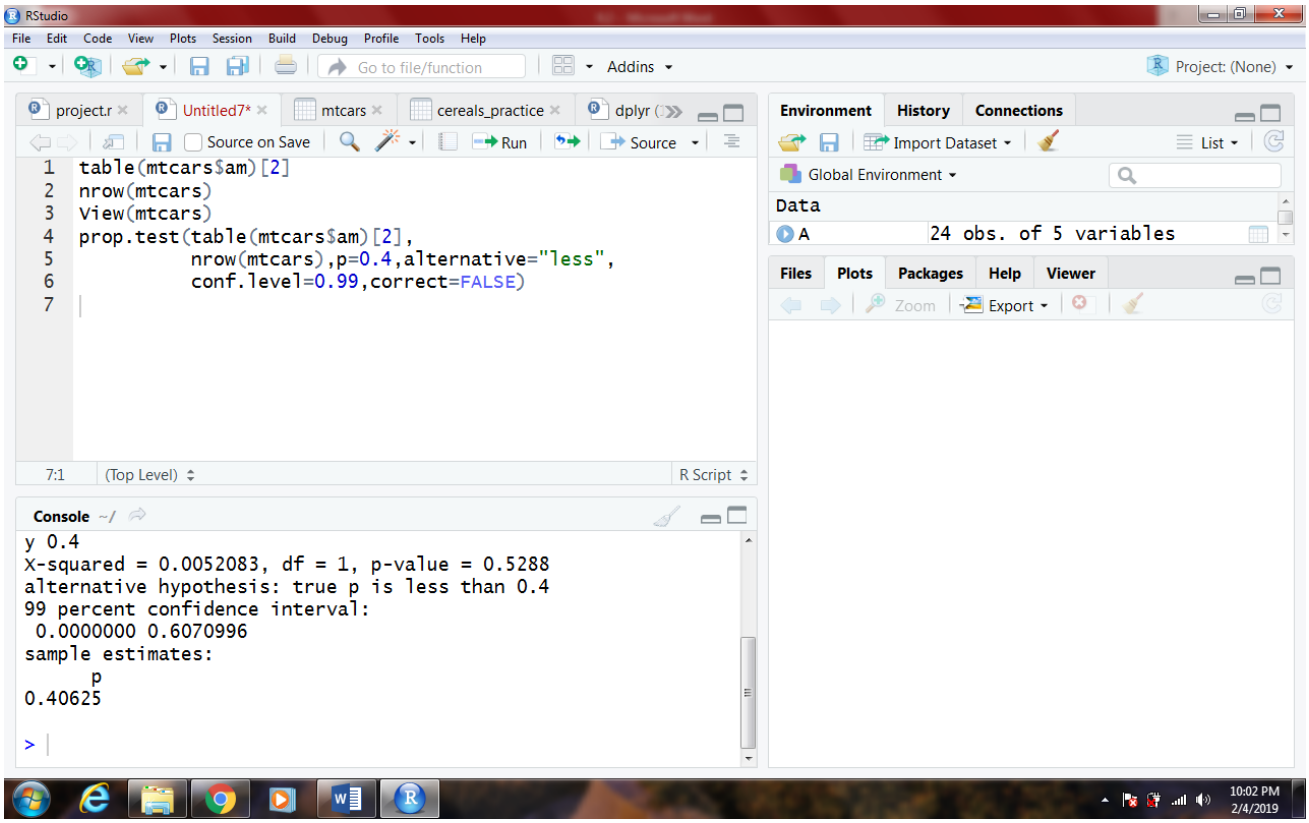
1. Calculate the p-value for the test in Problem no 2.
2. How do you test the proportions and compare against hypothetical props? Test hypothesis: proportion of automatic cars is 40%

Ans- table(mtcars$am)[2]
nrow(mtcars)
View(mtcars)
prop.test(table(mtcars$am)[2],
nrow(mtcars),p=0.4,alternative="less",
conf.level=0.99,correct=FALSE)

```
1-sample proportions test without continuity correction

data:  table(mtcars$am)[2] out of nrow(mtcars), null probability 0.4
```

```
X-squared = 0.0052083, df = 1, p-value = 0.5288
alternative hypothesis: true p is less than 0.4
99 percent confidence interval:
 0.0000000 0.6070996
sample estimates:
      p
0.40625
```




## 6. Expected Format

1. R file should be submitted where applicable.
2. R file should be in PDF or in .r format
3. Proper screenshots of the outputs should be submitted as well
4. The r codes, if submitted in any other format, will be subjected to deduction in marks

Note: Your solution will not be entertained if it is any other format, e.g., .zip, .doc, .rtf etc.

## 7. Approximate Time to Complete Task

40 mins.