SurveyAnalysisHomeworkExample

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## Hypothesis: Does the choice of computer depend on handedness?

I want to test the hypothesis that whether students use Apple or PC’s varies with whether your left or right handed. This is a comparison of nominal to nominal scale data, so it’ll require making a bar plot of frequencies:

## Analysis:

The following R code loads in the survey data and creates our 2x2 table of frequencies

# First we'll clear the workspace and load in the survey data:  
rm(list = ls())  
survey <-  
 read.csv("http://www.courses.washington.edu/psy315/datasets/Psych315W21survey.csv")  
  
# Then create the table   
myTable <- table(survey$computer,survey$hand)  
  
# The result is a table with both rows and columns, with labels:  
myTable

##   
## Left Right  
## Apple 5 90  
## Other 0 11  
## PC 2 44

# The labels can be pulled out using 'row.names' and 'colnames' (note   
# the inconsistency using '.' in the function names)  
row.names(myTable)

## [1] "Apple" "Other" "PC"

colnames(myTable)

## [1] "Left" "Right"

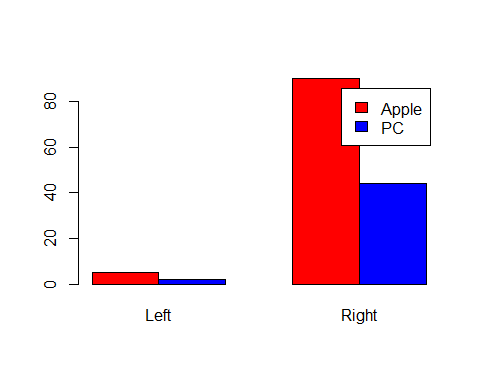
# The first and third rows correspond to Apple and PC's, and the 1st and 2nd columns  
# correspond to left and right handedness. This pulls out the relevant subset of rows and  
# columns:  
  
myTable <- myTable[c(1,3),c(1,2)]

## Results:

# Here's the table of the results:  
myTable

##   
## Left Right  
## Apple 5 90  
## PC 2 44

# And the bar graph:  
barplot(myTable,   
 beside=TRUE,  
 legend = row.names(myTable),  
 col = c("Red","Blue"))



## Summary

Looking at the graph, it appears that the ratios of PC to Apple users is pretty much the same across handedness. I therefore don’t think that there is a difference in the choice of computers between left and right handers.