

## Lab 5

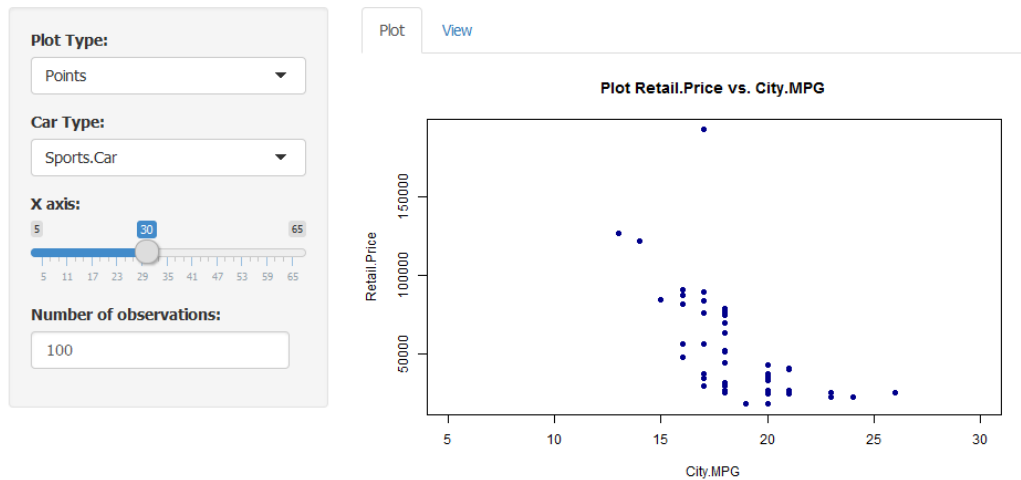
Steven Lin

*NOTE: for b), it says “subject to type of car” for i) and “subject to type of car and number of observations” for ii). I am assuming you mean the latter for both cases. If this is not the case, you just need to remove “input\$obs” from output\$plot.*

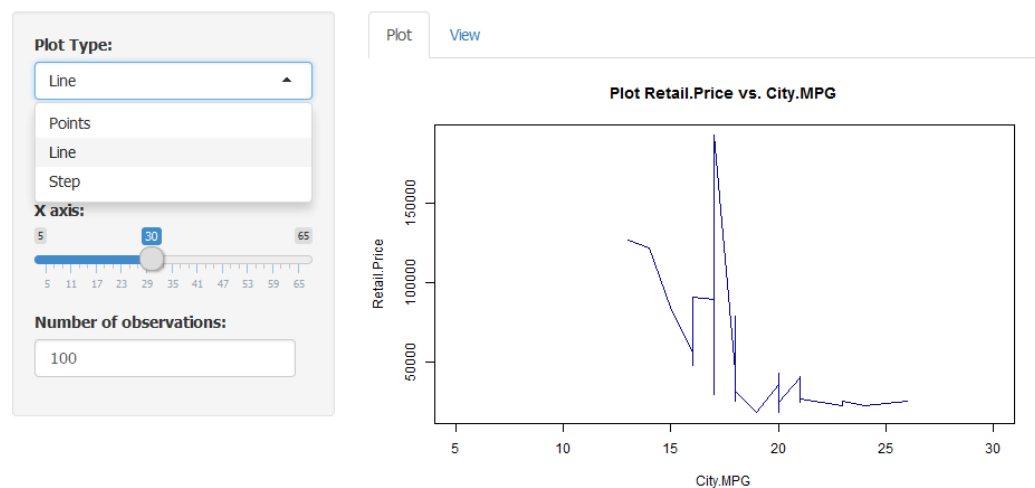
a)

i) and ii) Title and Plot type

### Cars



### Cars



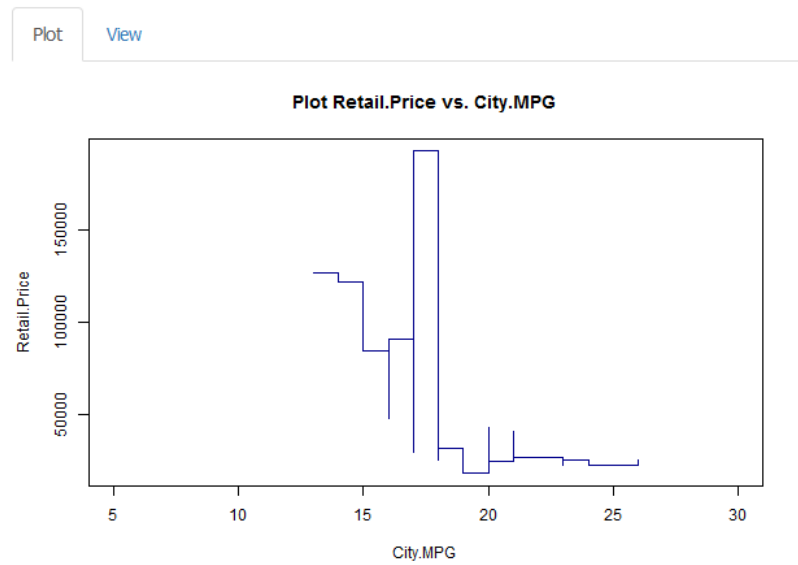
## Cars

**Plot Type:**  
Step

**Car Type:**  
Sports.Car

**X axis:**  
5 30 65

**Number of observations:**  
100



iii) Type of Car

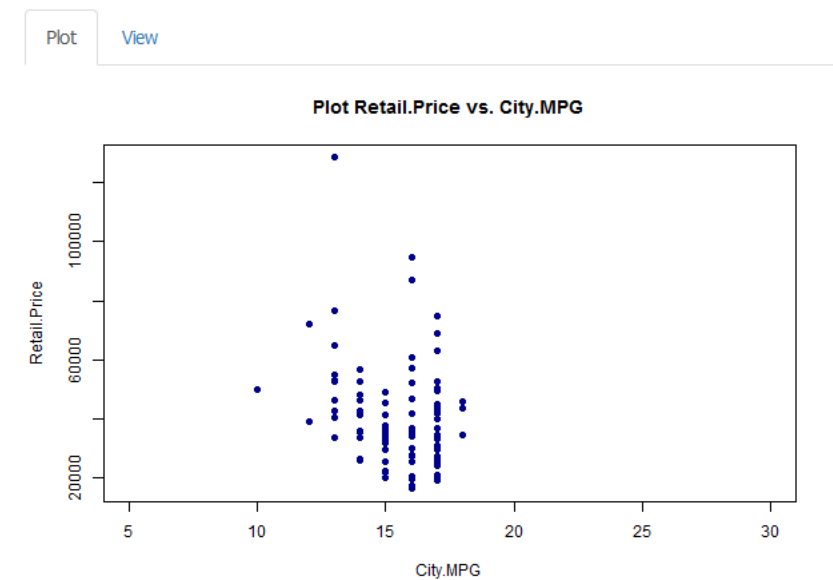
## Cars

**Plot Type:**  
Points

**Car Type:**  
Non-sports.Car

**X axis:**  
5 30 65

**Number of observations:**  
100



iv) Slider

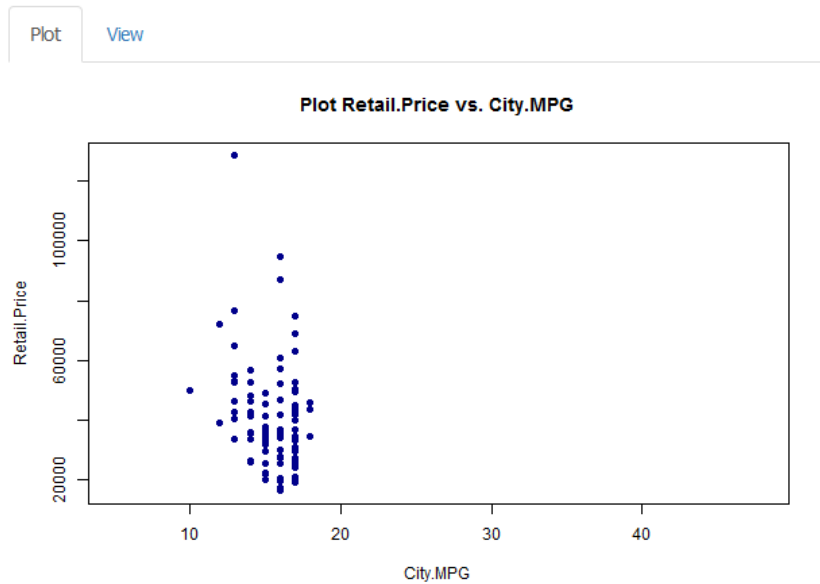
## Cars

**Plot Type:**  
Points

**Car Type:**  
Non-sports.Car

**X axis:**  
5 48 65

**Number of observations:**  
100



v) Number of obs

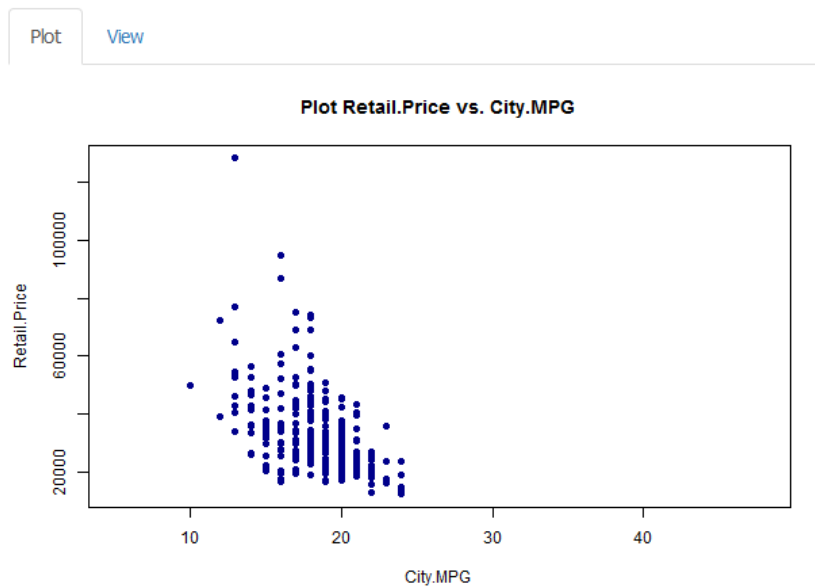
## Cars

**Plot Type:**  
Points

**Car Type:**  
Non-sports.Car

**X axis:**  
5 48 65

**Number of observations:**  
300



## b) View tab

### Cars

**Plot Type:**  
Points

**Car Type:**  
Non-sports,Car

**X axis:**  
5 48 65

**Number of observations:**  
300

		Small	Sporty	Compact	Large	Sedan	Sports	Car	SUV	Wagon	Minivan	Pickup	AWD	RWD
167	Hummer H2					0		0	1	0	0	0	1	
216	Land Rover Discovery SE					0		0	1	0	0	0	1	
218	Land Rover Range Rover HSE					0		0	1	0	0	0	1	
59	Cadillac Escalade EXT					0		0	0	0	0	1	1	
84	Chevrolet Silverado SS					0		0	0	0	0	1	1	
149	GMC Yukon XL 2500 SLT					0		0	1	0	0	0	1	
227	Lexus LX 470					0		0	1	0	0	0	1	
230	Lincoln Aviator Ultimate					0		0	1	0	0	0	0	
235	Lincoln Navigator Luxury					0		0	1	0	0	0	1	
260	Mercedes-Benz CL600 2dr					1		0	0	0	0	0	0	

## Code

### ui.R

```
1. # Shiny ui
2.
3. library(shiny)
4.
5. shinyUI(fluidPage(
6.   titlePanel("Cars"),
7.
8.   sidebarLayout(
9.     sidebarPanel(
10.
11.       # Select input to choose the type of plot (points, line, step)
12.       selectInput("plotType", "Plot Type:",
13.         c("Points"="p", "Line"="l", "Step"="s")),
14.
15.       # Select input to choose the type of car ("Sports vs Non-sports")
16.       selectInput("carType", "Car Type:",
17.         c("Sports.Car"=1, "Non-sports.Car"=0)),
18.
19.       # Slider to adjust the x axis (5,...65)
20.       sliderInput("xmax", "X axis:", value = 30, min = 5, max = 65),
21.
22.       # Numeric input to select number of observations to show
23.       numericInput('obs', 'Number of observations:', 100, min = 0, max = 379)
24.     ),
25.
26.     mainPanel(
27.       tabsetPanel(type = "tabs",
28.         tabPanel("Plot", plotOutput("plot")),
29.         tabPanel("View", tableOutput("view")))
30.     )
31.   )
32. ))
```

## server.R

```
1. # Lab session 5 exercise
2.
3. ##### Load data #####
4.
5. # My PC
6. main = "C:/Users/Steven/Documents/Academics/3_Graduate School/2014-2015 ~ NU/"
7.
8. # Aginity
9. #main = "\\nas1/labuser169"
10.
11. course = "MSIA_411_Data_Visualization"
12. datafolder = "/Lab/Data"
13. setwd(file.path(main,course, datafolder))
14.
15. carsdata =read.csv("04cars data.csv",header=TRUE,
16.                   na.strings=c("","*", "NA"))
17.
18. # Shiny server
19. library(shiny)
20.
21. carsdata = read.csv("04cars data.csv",header=TRUE,na.strings=c(" ","*", "NA"))
22. carsdata = carsdata[order(carsdata$City.MPG),] # this is for lines plot
23.
24. # Define server logic required to plot various variables against mpg
25.
26. shinyServer(function(input, output) {
27.   output$plot = renderPlot({
28.     plot(Retail.Price~City.MPG,
29.          data=head(carsdata[carsdata$Sports.Car==input$carType,],input$obs),
30.          type=input$plotType,xlim=range(c(5,input$xmax)),
31.          main="Plot Retail.Price vs. City.MPG",pch=16,col="darkblue",lwd=1.0)
32.   })
33.
34.   output$view = renderTable({
35.     head(carsdata[carsdata$Sports.Car==input$carType,],input$obs)
36.   })
37.
38. })
```