project

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The data was extracted from the 1974 Motor Trend US magazine, and comprises fuel consumption and 10 aspects of automobile design and performance for 32 automobiles (1973-74 models). ### Source Henderson and Velleman (1981), Building multiple regression models interactively. Biometrics, 37, 391-411.

```
library(datasets)
head(mtcars, 3)
```

```
##                mpg cyl disp  hp drat    wt  qsec vs am gear carb
## Mazda RX4     21.0   6  160 110 3.90 2.620 16.46  0  1    4    4
## Mazda RX4 Wag 21.0   6  160 110 3.90 2.875 17.02  0  1    4    4
## Datsun 710    22.8   4  108  93 3.85 2.320 18.61  1  1    4    1
```

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mtcars Dataset - Format

A data frame with 32 observations on 11 variables.

Index	Field	Detail
[, 1]	mpg	Miles/(US) gallon
[, 2]	cyl	Number of cylinders
[, 3]	disp	Displacement (cu.in.)
[, 4]	hp	Gross horsepower
[, 5]	drat	Rear axle ratio
[, 6]	wt	Weight (lb/1000)
[, 7]	qsec	1/4 mile time
[, 8]	vs	V/S
[, 9]	am	Transmission (0 = automatic, 1 = manual)
[,10]	gear	Number of forward gears
[,11]	carb	Number of carburetors

Analysis - Main Code

```
formulaTP <- reactive({
  paste("mpg ~", "as.integer(", input$variable, ")")  })

fit <- reactive({
  lm(as.formula(formulaTP()), data=mpgData)  })
...
output$fit <- renderPrint({
  summary(fit()) })

output$mpgPlot <- renderPlot({
  with(mpgData, {
    plot(as.formula(formulaTP()))
    abline(fit(), col=2)
  })  })
```