

Relationship between variables and MPG

mtcars dataset

Prasanna Bajracharya
Part 2 - Reproducible Pitch Presentation

Deployed App

Part1: Shiny Application

- URL: <https://prasannabajracharya.shinyapps.io/Project-assignment/>
(<https://prasannabajracharya.shinyapps.io/Project-assignment/>)
- A shiny-App shows the relationship between variables and miles per gallon (MPG).

Part2: Reproducible Pitch Presentation

- URL : <http://rpubs.com/theprasanna/DevelopingDataProducts>
(<http://rpubs.com/theprasanna/DevelopingDataProducts>)
- Presentation Slides for the assignment

Get all SourceCode @Github:

- URL: <https://github.com/prbajracharya/DataProducts.git/Project-assignment>
(<https://github.com/prbajracharya/DataProducts.git/Project-assignment>)

mtcars dataset - Description

Motor Trend Car Road Tests

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

mtcars dataset - Format

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

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

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

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