Data Visualization in R

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2025-04-22

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(mtcars)
```

```
##       mpg             cyl             disp             hp
##  Min.   :10.40   Min.   :4.000   Min.   : 71.1   Min.   : 52.0
##  1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5
##  Median :19.20   Median :6.000   Median :196.3   Median :123.0
##  Mean   :20.09   Mean   :6.188   Mean   :230.7   Mean   :146.7
##  3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0
##  Max.   :33.90   Max.   :8.000   Max.   :472.0   Max.   :335.0
##       drat             wt             qsec             vs
##  Min.   :2.760   Min.   :1.513   Min.   :14.50   Min.   :0.0000
##  1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000
##  Median :3.695   Median :3.325   Median :17.71   Median :0.0000
##  Mean   :3.597   Mean   :3.217   Mean   :17.85   Mean   :0.4375
##  3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000
##  Max.   :4.930   Max.   :5.424   Max.   :22.90   Max.   :1.0000
##        am              gear            carb
##  Min.   :0.0000   Min.   :3.000   Min.   :1.000
##  1st Qu.:0.0000   1st Qu.:3.000   1st Qu.:2.000
##  Median :0.0000   Median :4.000   Median :2.000
##  Mean   :0.4062   Mean   :3.688   Mean   :2.812
##  3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:4.000
##  Max.   :1.0000   Max.   :5.000   Max.   :8.000
```

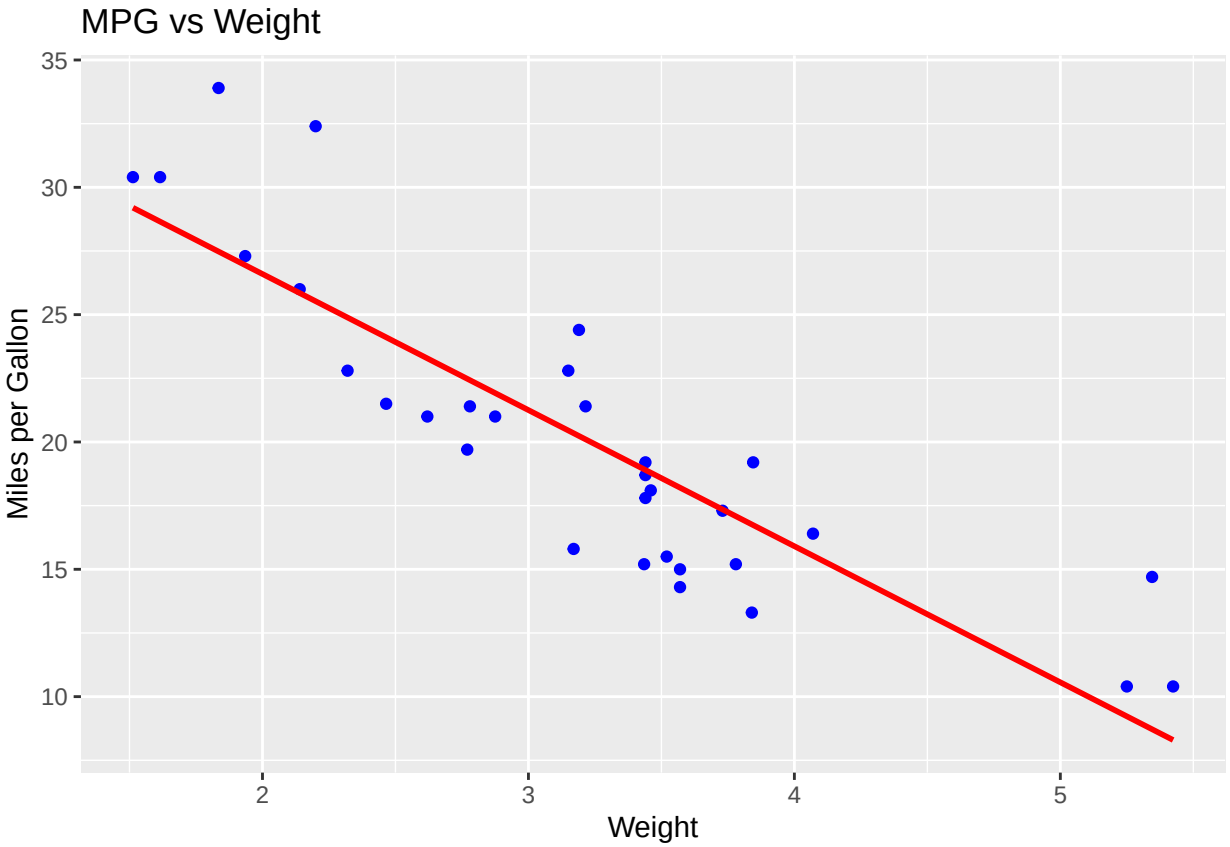
Including Plots

You can also embed plots, for example:

```
library(ggplot2)

ggplot(data = mtcars, aes(x = wt, y = mpg)) +
  geom_point(color = "blue") + # 1: scatter plot
  geom_smooth(method = "lm", se = FALSE, color = "red") + # 2: regression line
  labs(title = "MPG vs Weight", x = "Weight", y = "Miles per Gallon") # 3: labels
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



After generating a scatterplot and a fitted in line between the weight of cars and miles per gallon. There seems to be a negative relationship between the two variables of interest.

Mathematical Equations

You can also write mathematical equations in R markdown. Equations must be written in Latex format. Example:

$$y_{it} = \beta_0 + \beta_1 x_{it} + u_{it}$$

Cross referencing codes

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```

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##  Mean   :0.4062   Mean   :3.688   Mean   :2.812
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##  Max.   :1.0000   Max.   :5.000   Max.   :8.000
```