

Day 5 code

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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(cars)
```

```
##      speed      dist
##  Min.   : 4.0    Min.   :  2.00
## 1st Qu.:12.0    1st Qu.: 26.00
##  Median :15.0    Median : 36.00
##   Mean  :15.4    Mean   : 42.98
## 3rd Qu.:19.0    3rd Qu.: 56.00
##   Max.  :25.0    Max.    :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

#Loading required libraries

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.2.1 --
```

```
## v ggplot2 3.2.1    v purrr  0.3.2
## v tibble  2.1.3    v dplyr  0.8.3
## v tidyr   1.0.0    v stringr 1.4.0
## v readr   1.3.1    v forcats 0.4.0
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

```
library(ggplot2)
library(data.table)
```

```
##
## Attaching package: 'data.table'
```

```
## The following objects are masked from 'package:dplyr':
##
##   between, first, last
```

```
## The following object is masked from 'package:purrr':
##
##   transpose
```

```
#Understanding the data (data validation)
```

```
data("mtcars")
head(mtcars)
```

```
##           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
## Hornet 4 Drive  21.4   6  258  110  3.08  3.215 19.44  1  0    3    1
## Hornet Sportabout 18.7   8  360  175  3.15  3.440 17.02  0  0    3    2
## Valiant        18.1   6  225  105  2.76  3.460 20.22  1  0    3    1
```

```
str(mtcars)
```

```
## 'data.frame':   32 obs. of  11 variables:
## $ mpg : num  21 21 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 ...
## $ cyl : num  6 6 4 6 8 6 8 4 4 6 ...
## $ disp: num  160 160 108 258 360 ...
## $ hp : num  110 110 93 110 175 105 245 62 95 123 ...
## $ drat: num  3.9 3.9 3.85 3.08 3.15 2.76 3.21 3.69 3.92 3.92 ...
## $ wt : num  2.62 2.88 2.32 3.21 3.44 ...
## $ qsec: num  16.5 17 18.6 19.4 17 ...
## $ vs : num  0 0 1 1 0 1 0 1 1 1 ...
## $ am : num  1 1 1 0 0 0 0 0 0 0 ...
## $ gear: num  4 4 4 3 3 3 3 4 4 4 ...
## $ carb: num  4 4 1 1 2 1 4 2 2 4 ...
```

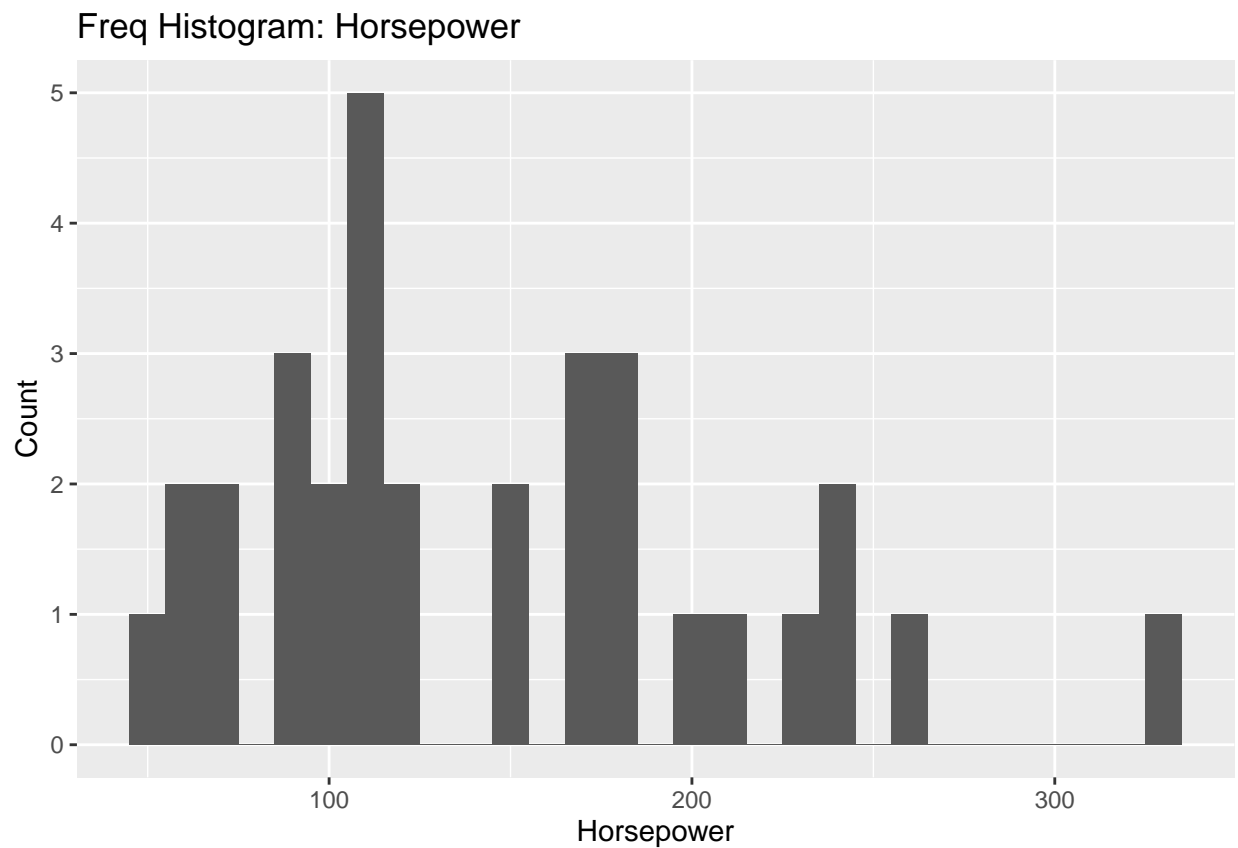
```
summary(mtcars)
```

```
##           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
```

Plotting

```
qplot(mtcars$hp, xlab= 'Horsepower', ylab = 'Count', binwidth =10, main= 'Freq Histogram: Horsepower')
```



Histogram of horsepower

```
ggplot(data=mtcars, aes(x=wt, y=mpg))+geom_point() + geom_smooth(method='lm')+xlab('MPG')+ylab('Weight')
```

