

Intro to Markdown

2024-01-16

In R markdown, we write our code in “chunks”, which start with `{r}` and end with `Anything` outside of a chunk is text for our document. This first chunk tells markdown to always display code in the final document with the “`echo=TRUE`” command. “`ctrl+alt+I`” will immediately open a new chunk

```
#we write code in here
```

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:

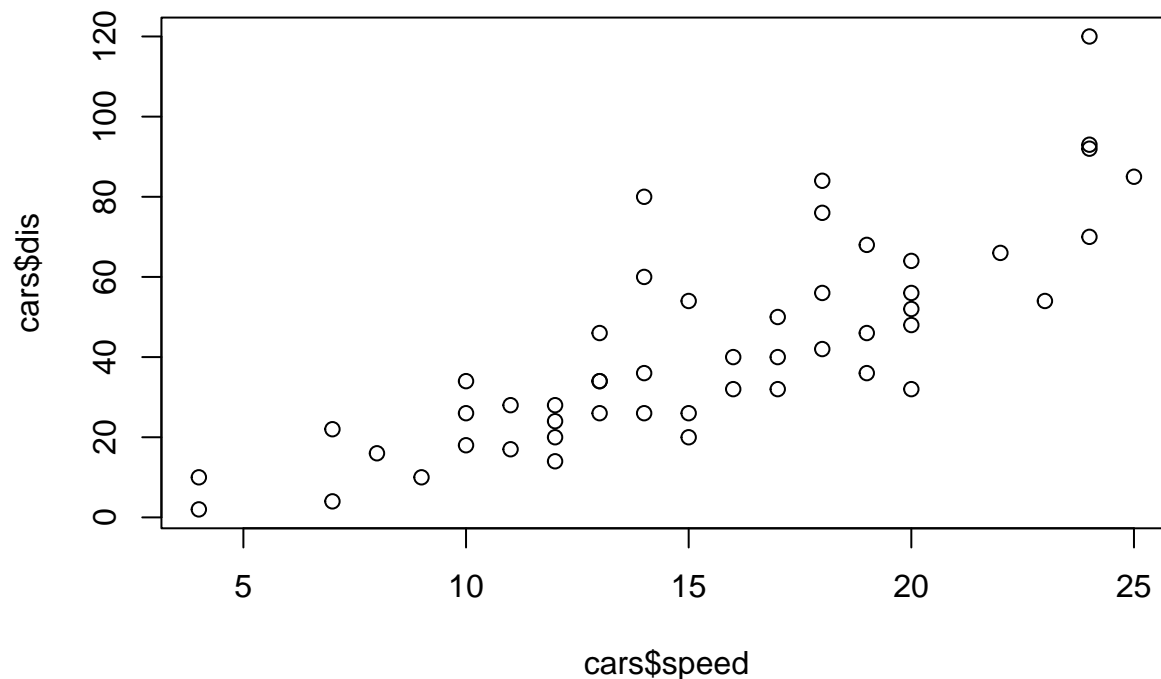
```
data(cars) #this way of reading data in only works for built-in datasets.
summary(cars)
```

```
##      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
```

There is a dataset built into R called “cars”. Let’s read it in using the `data()` command.

Including Plots

You can also embed plots, for example:

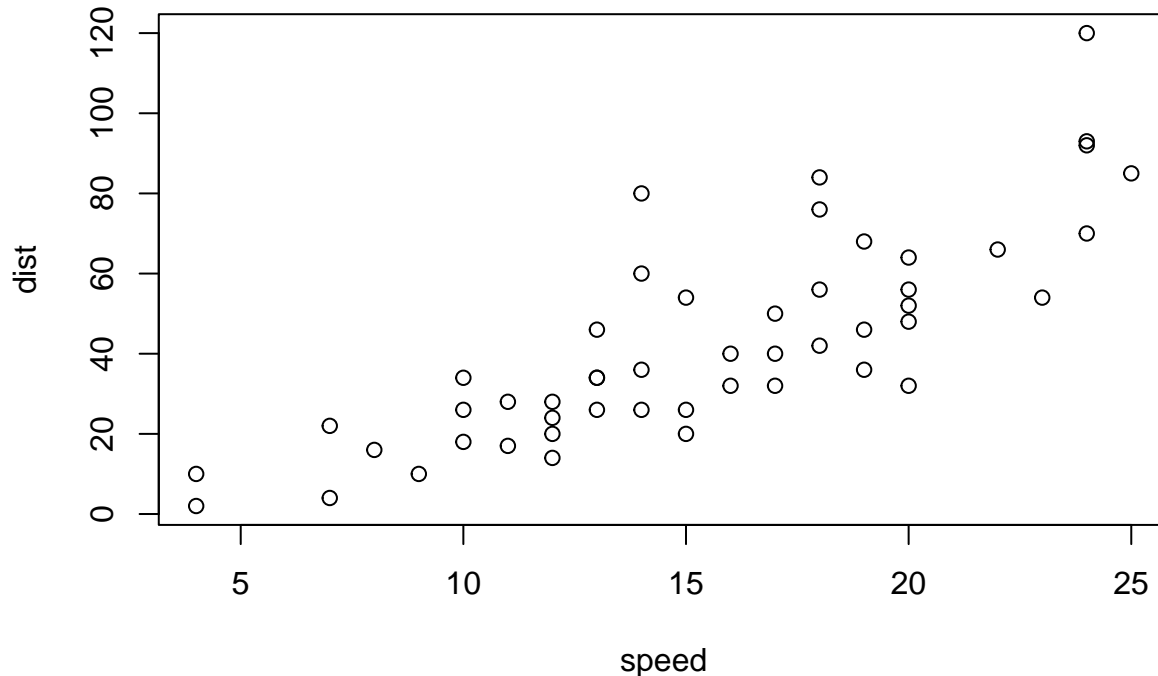


We

don't have to identify the individual variables in "cars" that we want to plot since there are only two!

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

```
plot(cars) #this only plots cleanly because cars has two variables in it
```



```
cor(cars$speed,cars$dist)
```

```
## [1] 0.8068949
```

We can write things in bold by wrapping them in two asterisks.

We can point to code fleshed out a little more by putting two little tick marks (the thing in the top left by the tilde.)

We can make something a header by using hash tags.

a smaller header

- We can make bullet points
- like this, by starting with an asterisk

We can also order bullet points

1. like
2. this

Or even set up a link

Note that there must be spacing for the various things to work, headers, bulleted lists, etc. You need an empty line before it all. * this will not make a bullet point

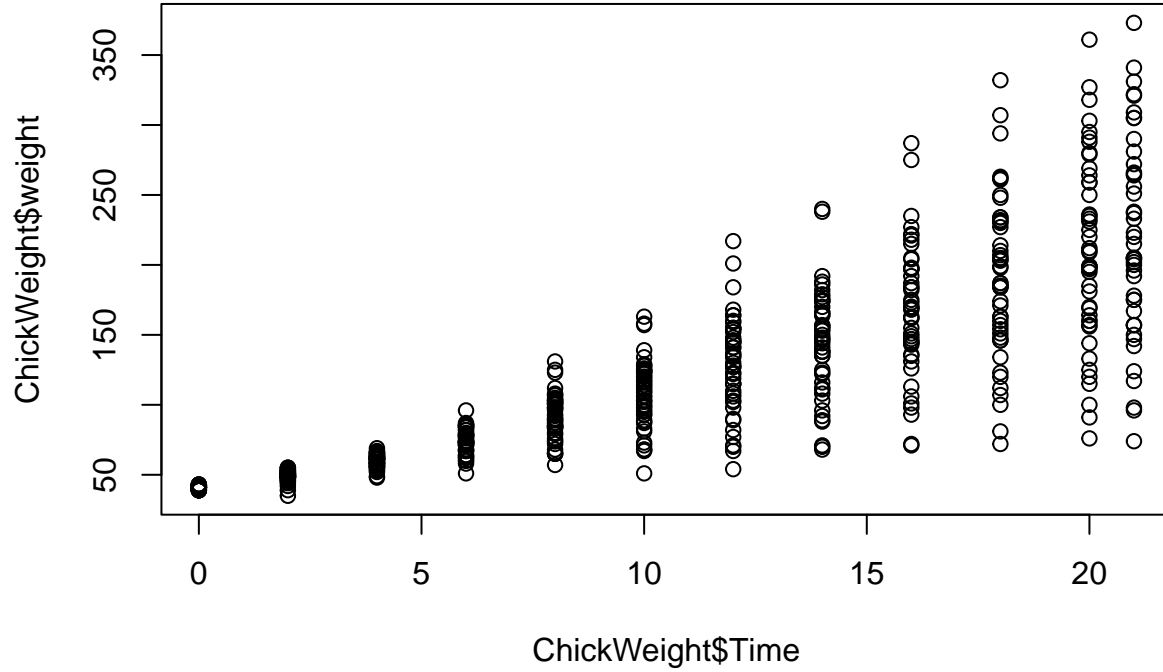
- this will

We can even write equations by wrapping something in dollar signs like

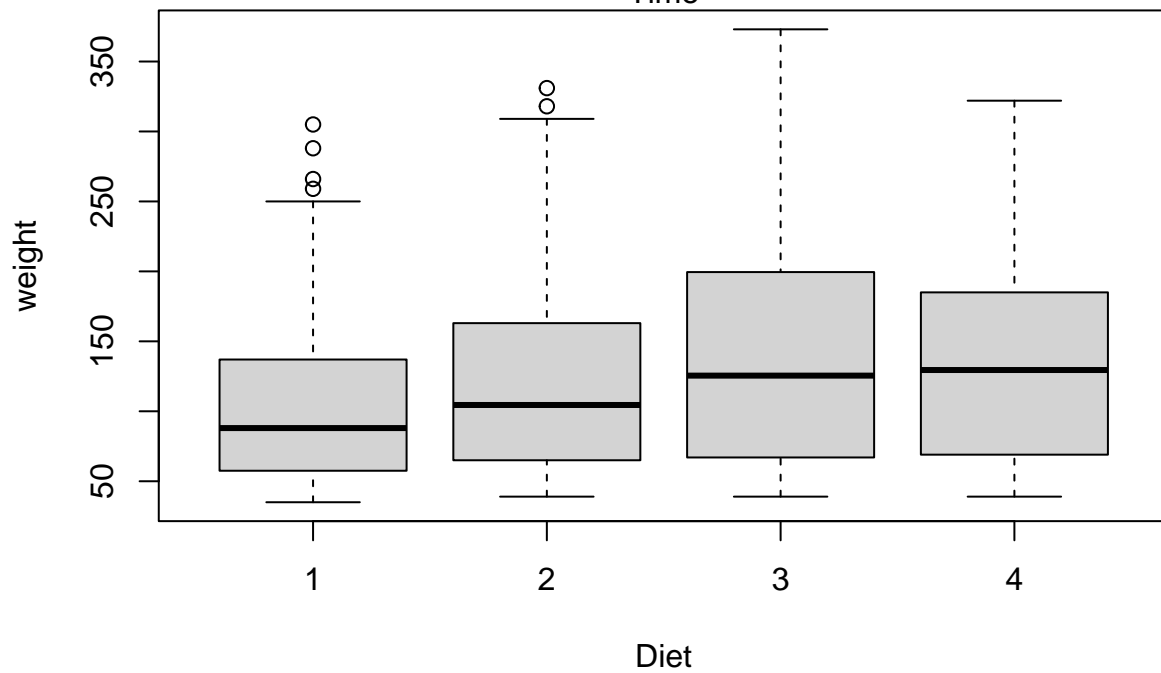
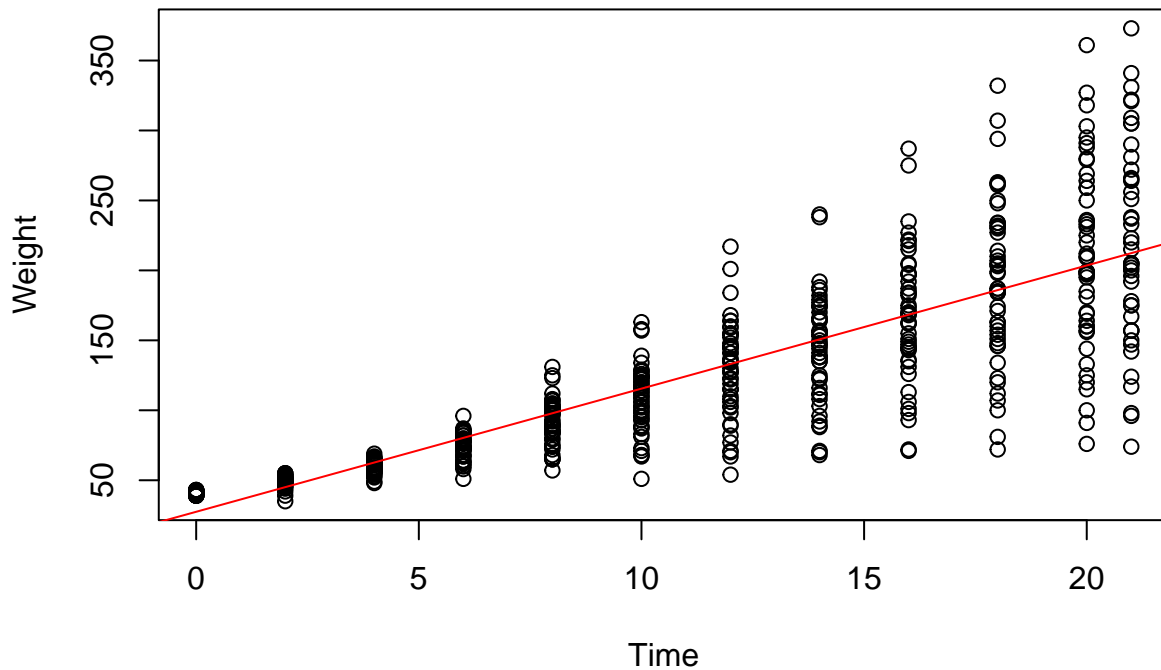
$$Y = mx + b$$

$$Y = \beta_0 + \beta_1 X$$

```
##      weight      Time      Chick      Diet
## Min.   : 35.0   Min.   : 0.00   13    : 12   1:220
## 1st Qu.: 63.0   1st Qu.: 4.00    9     : 12   2:120
## Median :103.0   Median :10.00   20    : 12   3:120
## Mean   :121.8   Mean    :10.72   10    : 12   4:118
## 3rd Qu.:163.8   3rd Qu.:16.00   17    : 12
## Max.   :373.0   Max.    :21.00   19    : 12
##                                     (Other):506
## [1] 0.8371017
```



Chick Weights over Time



Today's practice exercise:

Time to cut you loose for a few minutes. I want you to

1. Make your own markdown document (select the pdf option)
 2. Delete all the chunks below the first one (leave the setup chunk)
- Do the following ALL in one chunk

3. Load in cars with `data(cars)`
4. Make a scatterplot with `plot()` command
5. Add labels to the scatterplot. Within the plot command, use `xlab=""`, `ylab=""`, and `main=""`
6. Display the correlation coefficient of speed and distance.
7. Describe in as much detail as possible, below the code chunk, what the scatterplot tells you. For your reference, “speed” is how fast a car is moving in mph and “dist” is the stopping distance upon hard braking (in feet).
8. Interpret the correlation coefficient.
9. Title your PDF “Cars Speed and Stopping Distance Analysis”.
10. Knit your PDF, it should be nice and readable.