

R Workshop Notebook

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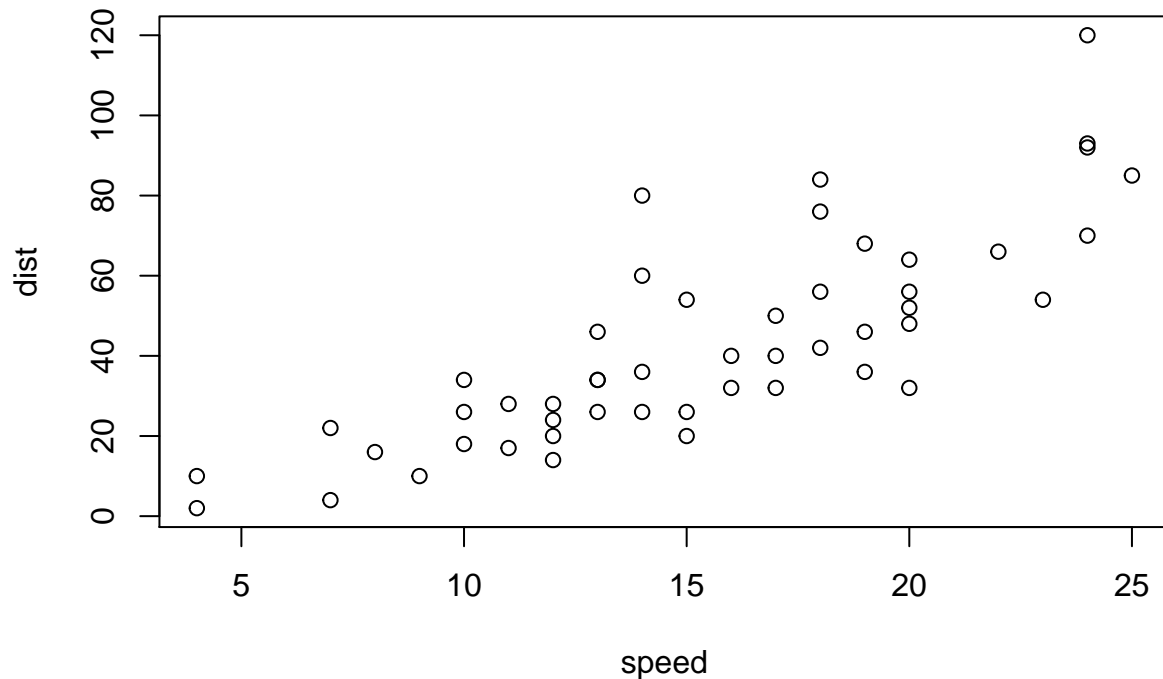
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Workshop url

This is an R Markdown Notebook. When you execute code within the notebook, the results appear beneath the code.

Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Ctrl+Shift+Enter*.

```
plot(cars)
```



Add a new chunk by clicking the *Insert Chunk* button on the toolbar or by pressing *Ctrl+Alt+I*.

When you save the notebook, an HTML file containing the code and output will be saved alongside it (click the *Preview* button or press *Ctrl+Shift+K* to preview the HTML file).

The preview shows you a rendered HTML copy of the contents of the editor. Consequently, unlike *Knit*, *Preview* does not run any R code chunks. Instead, the output of the chunk when it was last run in the editor is displayed.

Introduction to Markdown

Headers

The RStudio cheatsheet is a good resource, as is RStudio's Markdown Basics page.

Bold text looks like **this**.

Italic text looks like *this*.



Figure 1: RStudio-logo

Nested Bullet List

- First bullet
- Second bullet
 - Secondary bullet

Do you see the nested bullet list above?

Nested Numbered Lists

1. Item 1
2. Item 2
 - a. Item 2a
 - b. Item 2b
3. Item 3

Block quotes

Here is how to write a block quote as a single block of text even if it is written on multiple lines

Here is the first block quote
Here is the second
end each above line with two or more spaces.

Here is the first block quote.

Here is the second after a line break.

Images

Inline R code

There were 32 rows in the dataset.

Plain code blocks

```
## Plain code blocks
Write in *italics* with single asterisks.
```

Equations

Inline equations

Look up symbols at Math-Linux.com website

Also: Getting Started with LaTeX By David R. Wilkins 2nd Edition Copyright David R. Wilkins 1995 online

Also: LaTeX wiki

Let's talk about σ^2 within a sentence, using the Greek letter.

And $\int_a^b f(x)dx$

Display equation

Here is how we sum everything together:

$$\sum_{i=1}^n X_i$$

And

$$\int_a^b f(x) dx.$$

Page breaks

Force new pages by putting three or more dashes or asterisks on a line. ****

Miscellaneous

Superscripts

y^2

Subscripts

H_2O

Strikethroughs

~~Strike this out~~

YAML header

Refer:
RStudio HTML R Markdown page
PDF R Markdown page

```
---  
title: "Practice Notebook"  
date: May 16, 2018  
output: html_notebook  
---
```

Code Chunks

```
library(ggplot2)
```

```
## Registered S3 methods overwritten by 'ggplot2':  
##   method          from  
##   [.quosures      rlang  
##   c.quosures      rlang  
##   print.quosures  rlang
```

```
library(dplyr)
```

```
##  
## Attaching package: 'dplyr'  
  
## The following objects are masked from 'package:stats':  
##  
##   filter, lag  
  
## The following objects are masked from 'package:base':  
##  
##   intersect, setdiff, setequal, union
```

```
detach("package:dplyr", unload = TRUE)  
detach("package:ggplot2", unload = TRUE)
```

Knitr Options

Author Yihui Xie

Making a setup chunk

code it as follows within a code chunk delimiters - three back-ticks (`):

```
{r setup, echo = FALSE}  
library(knitr)  
opts_chunk$set(root.dir = "filepath", fig.height = 10, fig.width = 5)
```

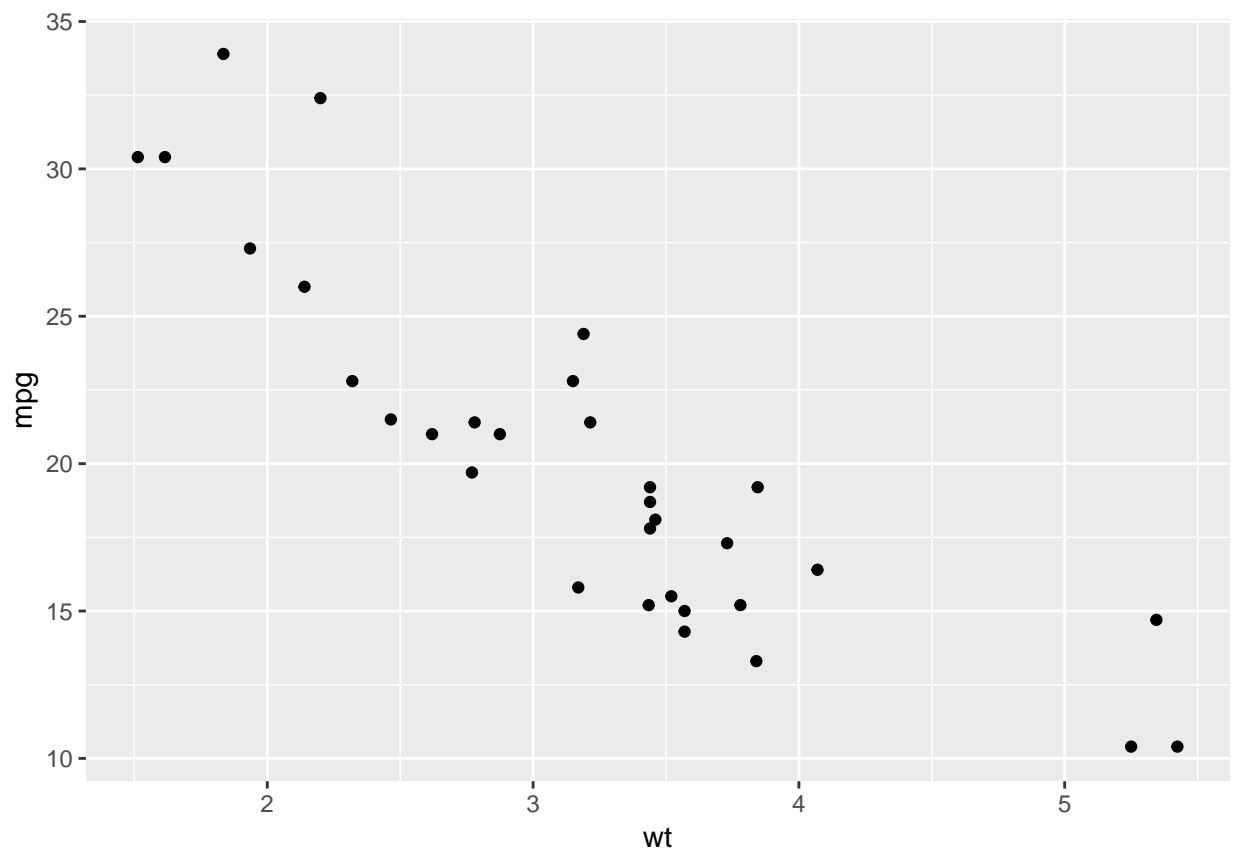
Suppressing messages and warnings

```
library(ggplot2)
library(dplyr)
```

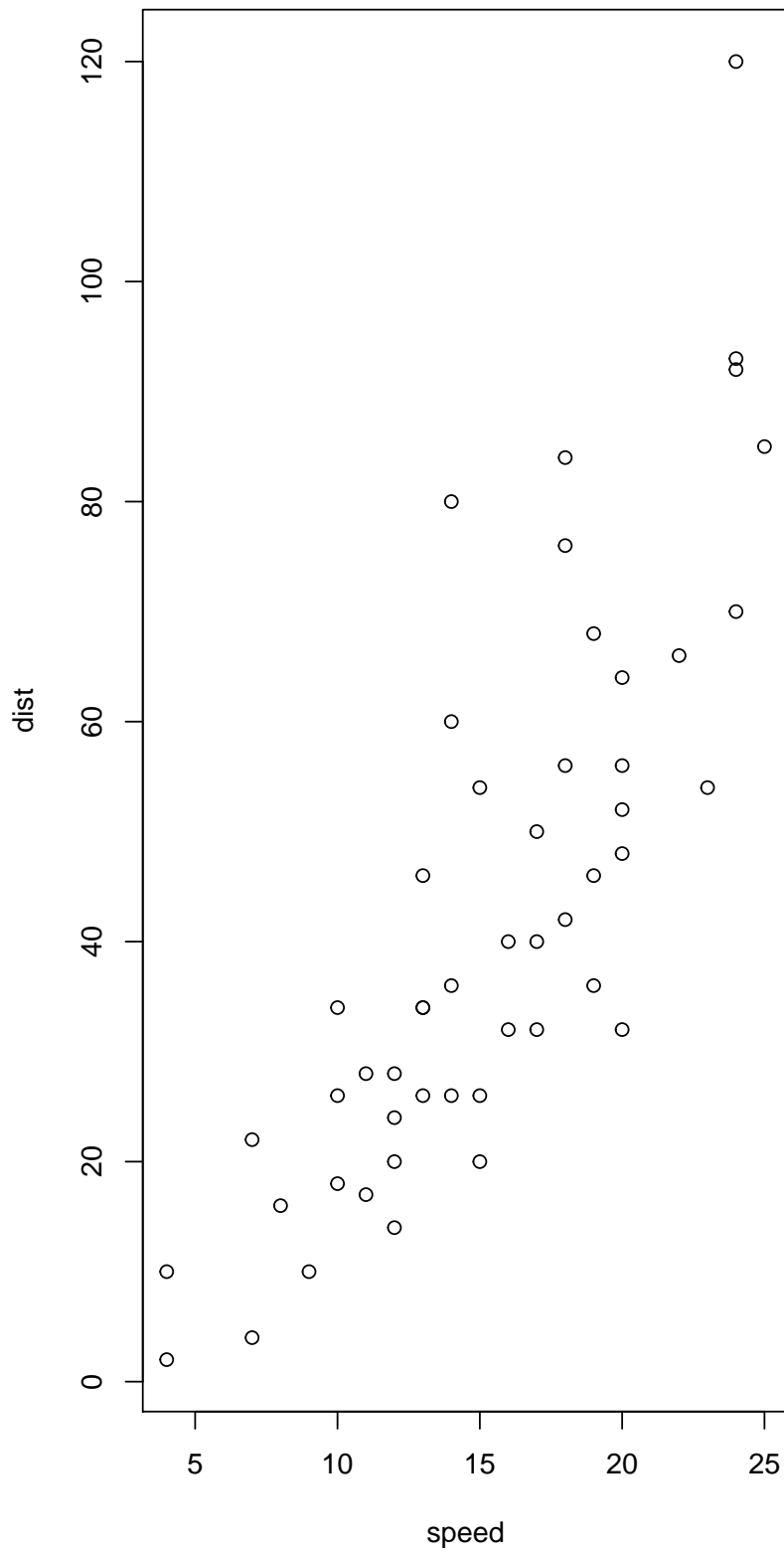
Suppressing code output

```
mtcars %>%
  group_by(cyl) %>%
  summarise(mdisp = mean(displacement))
```

Suppressing code



```
plot(cars)
```



Default working directory

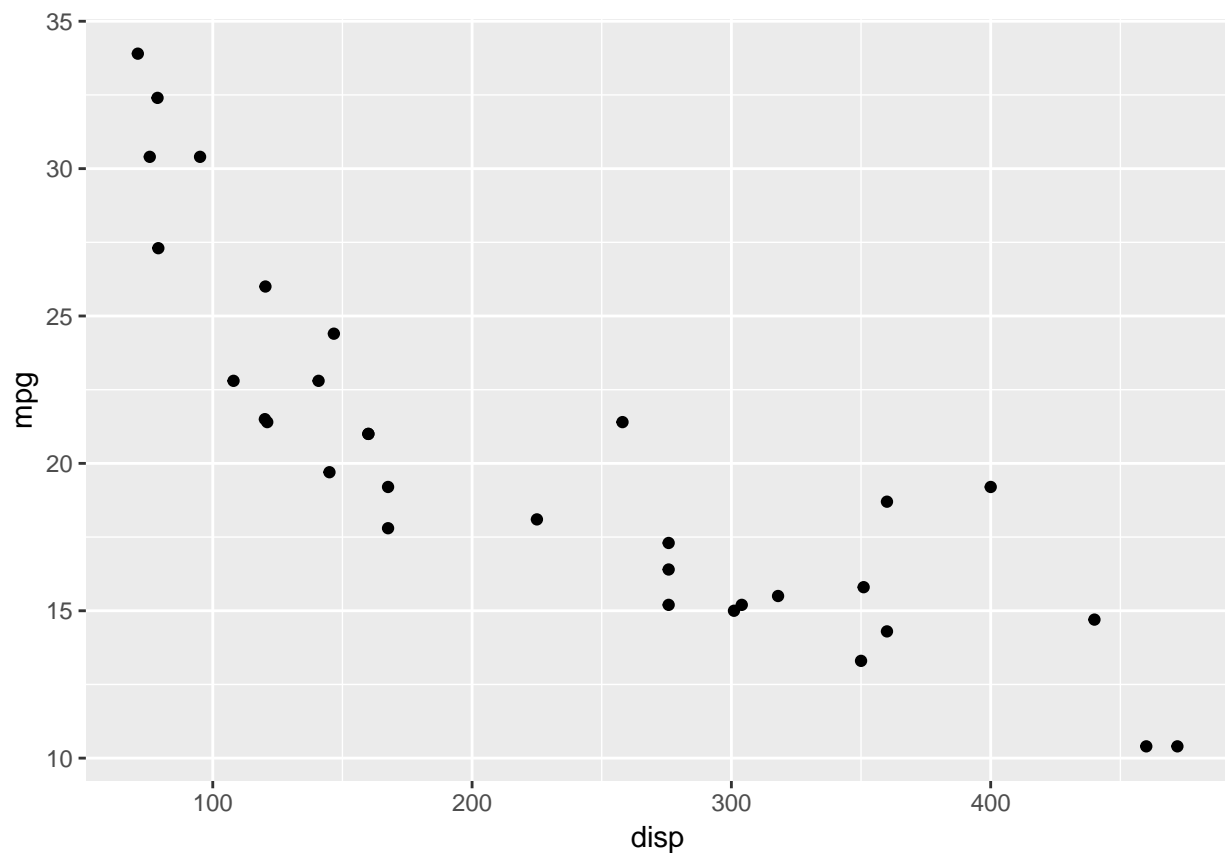
For R Notebooks and all other R Markdown documents, default working directory is the directory where the Rmd file is stored.

```
dat = read.csv("./Data/test.csv")
dat
```

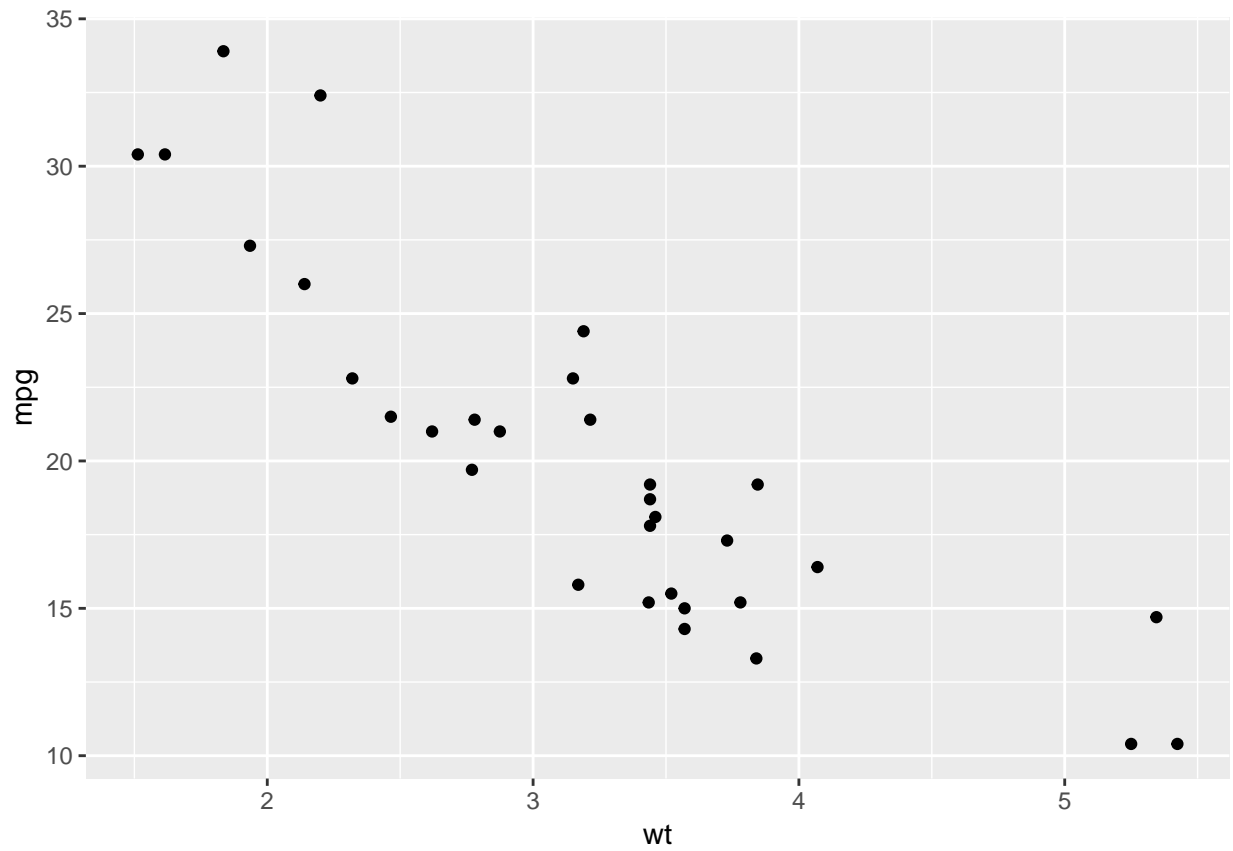
```
##   Diffmeans Lower.CI Upper.CI plantdate stocktype
## 1    -0.27   -0.63    0.09     Jan2      cont
## 2     0.11   -0.25    0.47     Jan28      cont
## 3    -0.15   -0.51    0.21     Jan28      bare
## 4    -1.27   -1.63   -0.91     Feb25      cont
## 5    -1.18   -1.54   -0.82     Feb25      bare
```

Separating single code chunks into multiples

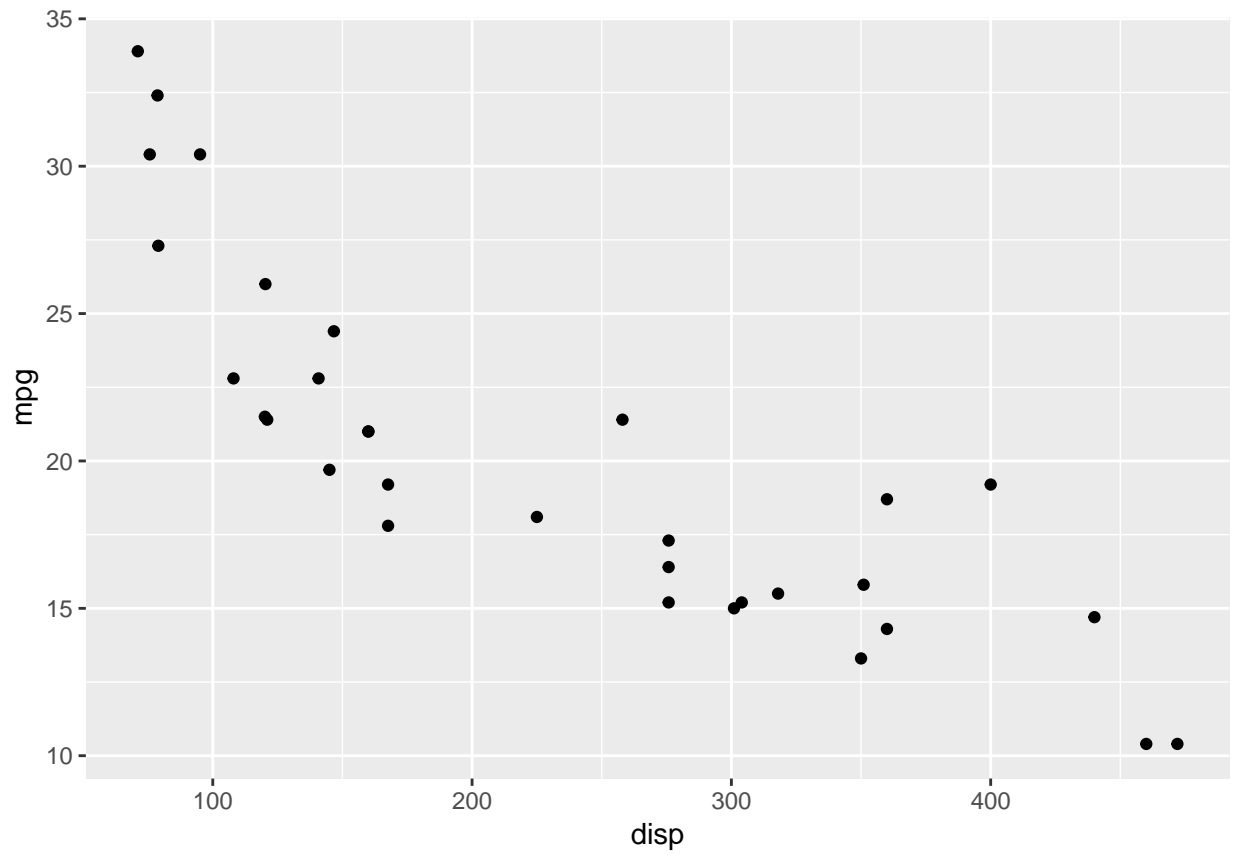
```
qplot(dis, mpg, data = mtcars)
```



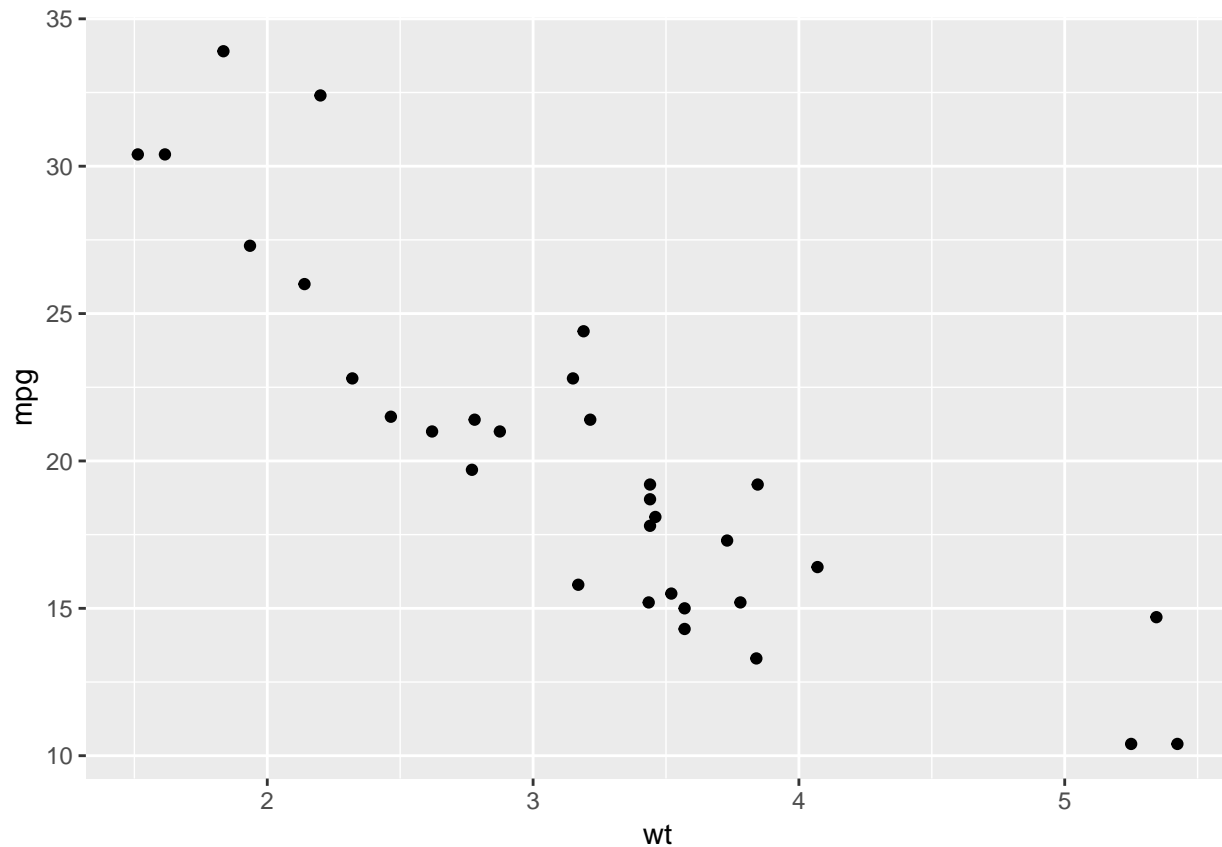
```
qplot(wt, mpg, data = mtcars)
```

```
qplot(displ, mpg, data = mtcars)
```



```
qplot(wt, mpg, data = mtcars)
```



Embedding interactive graphics

```
library(dygraphs)
dygraph(nhtemp) %>%
  dyRangeSelector( dateWindow = c("1920-01-01", "1960-01-01") )
```

```
## Registered S3 method overwritten by 'xts':
##   method      from
##   as.zoo.xts zoo
```

Change how static images are added

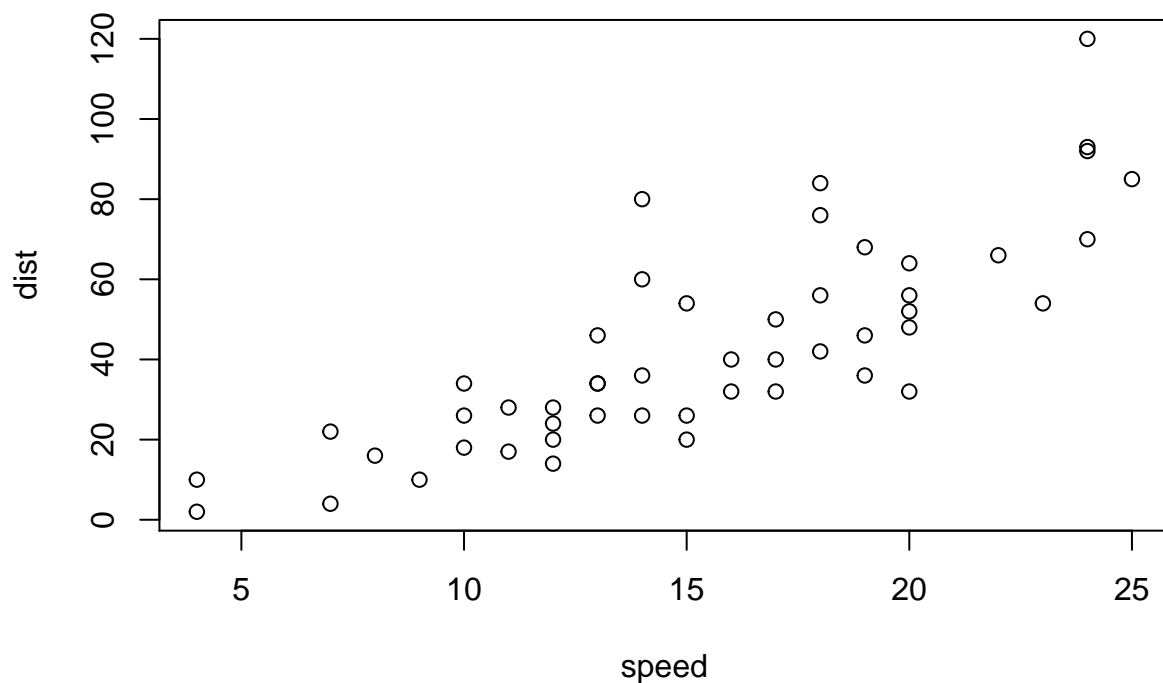
For pinning down figure location in pdf documents.



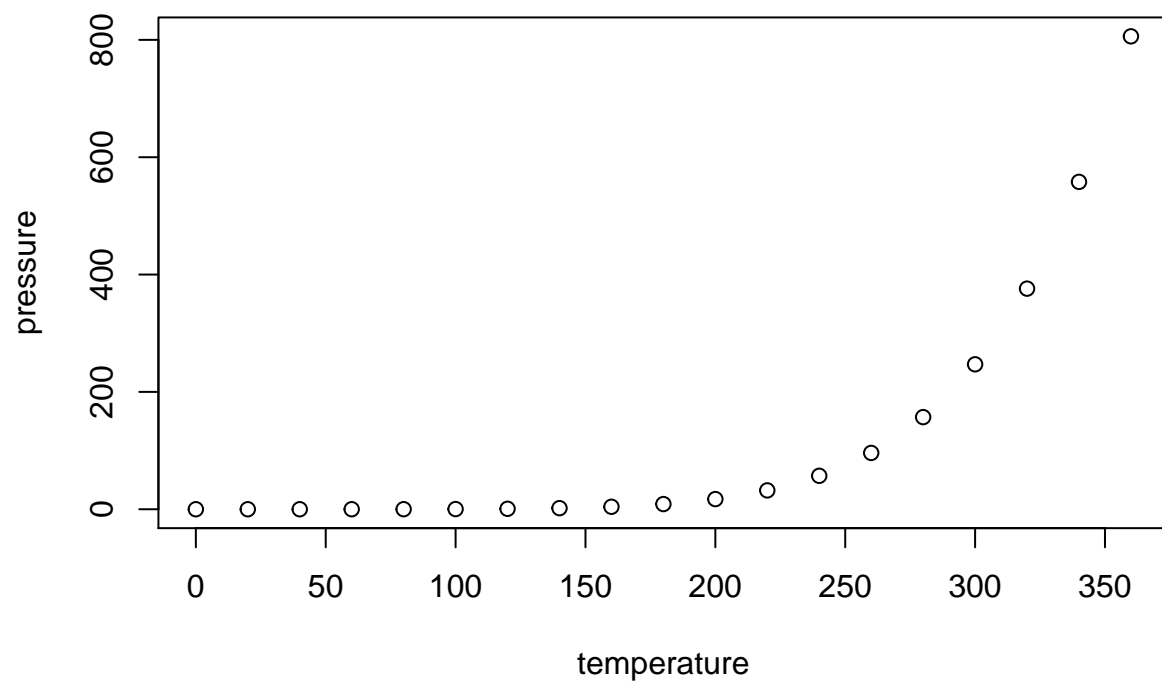
Holding figures to end of chunk with `fig.show`

Does NOT work with notebooks.

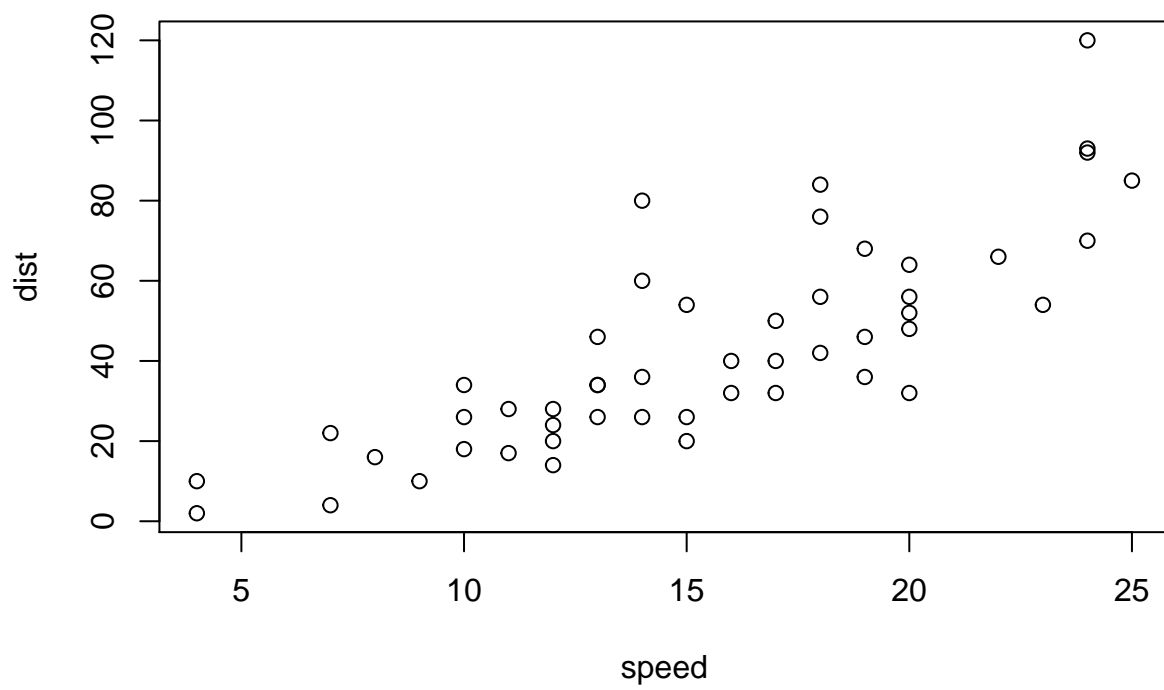
```
plot(cars)
```

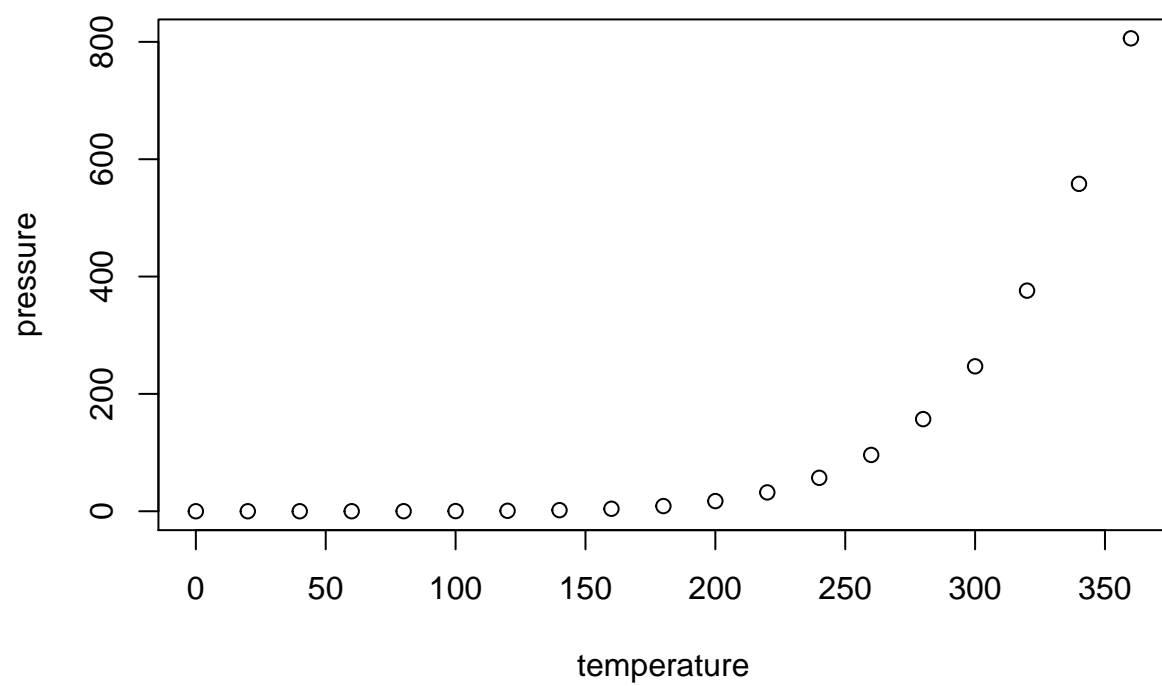


```
plot(pressure)
```



```
plot(cars)  
plot(pressure)
```





— End of Document