Cars dataset exploration w/ggplot

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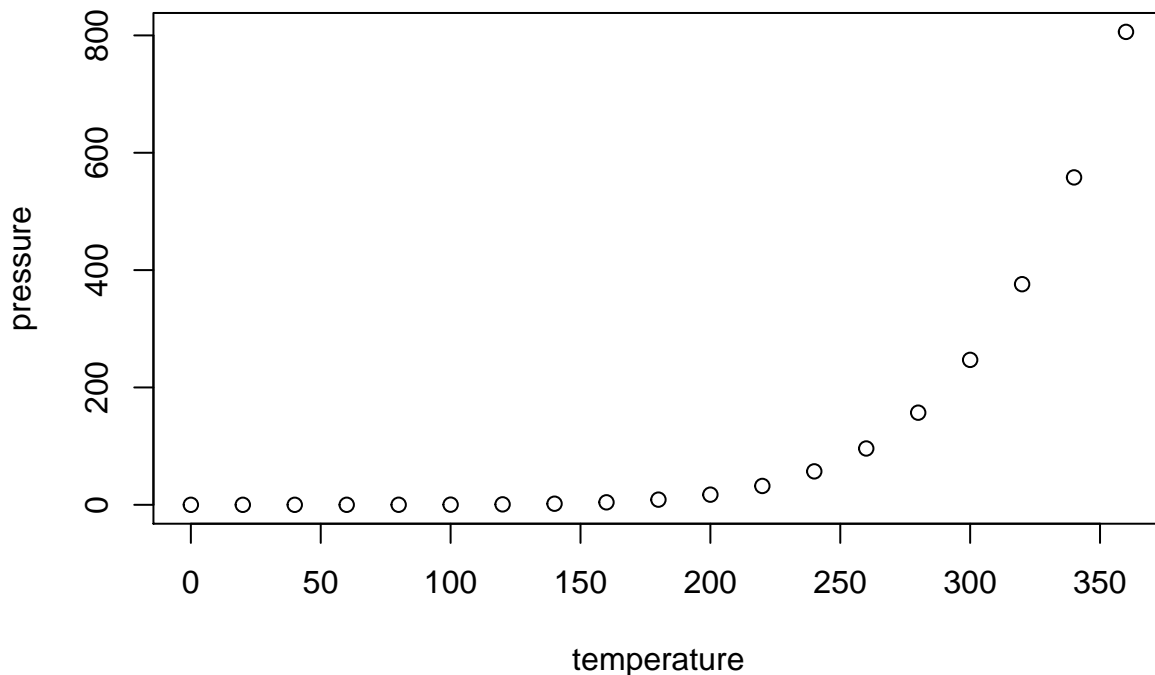
Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

```
## [1] 150   5
```

```r
"Question 1"
```

```
## [1] "Question 1"
```

```r
"a"
```

```
## [1] "a"
```

```r
x <- c(81,170,1923,3825)
x%%3
```

```
## [1] 0 2 0 0
```

```r
y <- c(81,170,1923,3825)
y%%9
```

```
## [1] 0 8 6 0
```

```r
"b"
```

```
## [1] "b"
```

```r
(81%/%10)+(81%%10)
```

```
## [1] 9
```

```r
(170%/%100)+(170%%100%/%10)+(170%%10)
```

```
## [1] 8
```

```r
(1923%/%1000)+(1923%%1000%/%100)+(1923%%100%%100%/%10)+(1923%%10)
```

```
## [1] 15
```

```r
(3825%/%1000)+(3825%%1000%/%100)+(3825%%100%%100%/%10)+(3825%%10)
```

```
## [1] 18
```

```r
"I found that the if a number is divisible by 3, then the sum of it's digits is also divisible by 3. If
```

```
## [1] "I found that the if a number is divisible by 3, then the sum of it's digits is also divisible b
```

```r
"c"
```

```
## [1] "c"
```

```r
658/7
```

```
## [1] 94
```

```r
a <- (658%%10)
b <- (658%/%10)
x <- b-(2*a)
x
```

```
## [1] 49
```

```r
1489/7
```

```
## [1] 212.7143
```

```r
a <- (1489%%10)
b <- (1489%/%10)
x <- b-(2*a)
x
```

```
## [1] 130
```

```r
2401/7
```

```
## [1] 343
```

```r
a <- (2401%%10)
b <- (2401%/%10)
x <- b-(2*a)
x
```

```
## [1] 238
```

```r
"d"
```

```
## [1] "d"
```

```r
"From this experiment I found that if a number is divisible by 7, then the sum of the last digit and the
```

```
## [1] "From this experiment I found that if a number is divisible by 7, then the sum of the last digit
```

```r
"Question 2"
```

```
## [1] "Question 2"
```

```r
(10^15-10)/15
```

```
## [1] 6.666667e+13
```

```r
(10^21-10)/21
```

```
## [1] 4.761905e+19
```

```r
"15 and 21 are not prime numbers"
```

```
## [1] "15 and 21 are not prime numbers"
```

```r
"Question 3"
```

```
## [1] "Question 3"
```

```r
"a"
```

```
## [1] "a"
```

```r
2*2*2*4*4*6*6/(1*3*3*5*5*7)
```

```
## [1] 2.925714
```

```r
"b"
```

```
## [1] "b"
```

```r
a <- c(2,4,6)
b <- c(1,3,5)
c <- c(3,5,7)
d <- 2*prod(a,a)/prod(b,c)
d
```

```
## [1] 2.925714
```

```
"c"
```

```
## [1] "c"
```

```
"Question 4"
```

```
## [1] "Question 4"
```

```
"a"
```

```
## [1] "a"
```

```
a <- dim(cars)
a
```

```
## [1] 50  2
```

```
"50 observations, 2 variables"
```

```
## [1] "50 observations, 2 variables"
```

```
"b"
```

```
## [1] "b"
```

```
names(cars)
```

```
## [1] "speed" "dist"
```

```
"Variables are speed and distance.The speed means how fast the cars are going and the distance represent
```

```
## [1] "Variables are speed and distance.The speed means how fast the cars are going and the distance r
```
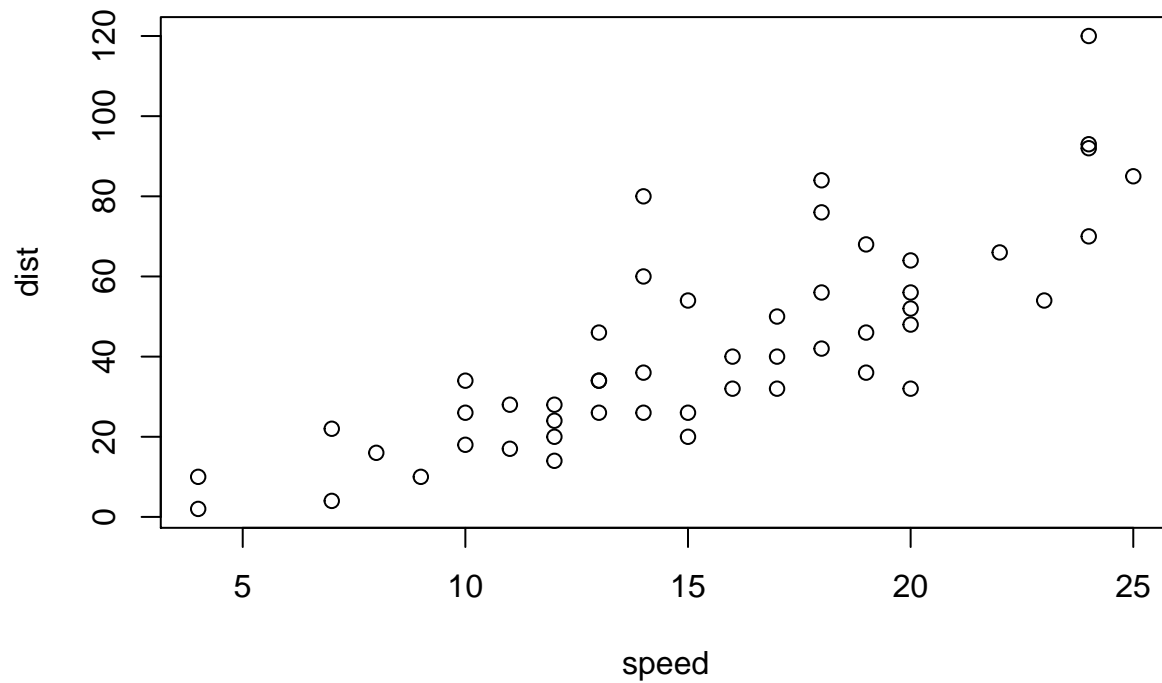
```
"c"
```

```
## [1] "c"
```

```
"Each observation corresponds to a different car"
```

```
## [1] "Each observation corresponds to a different car"
```

```
"d"
```

```
## [1] "d"
```
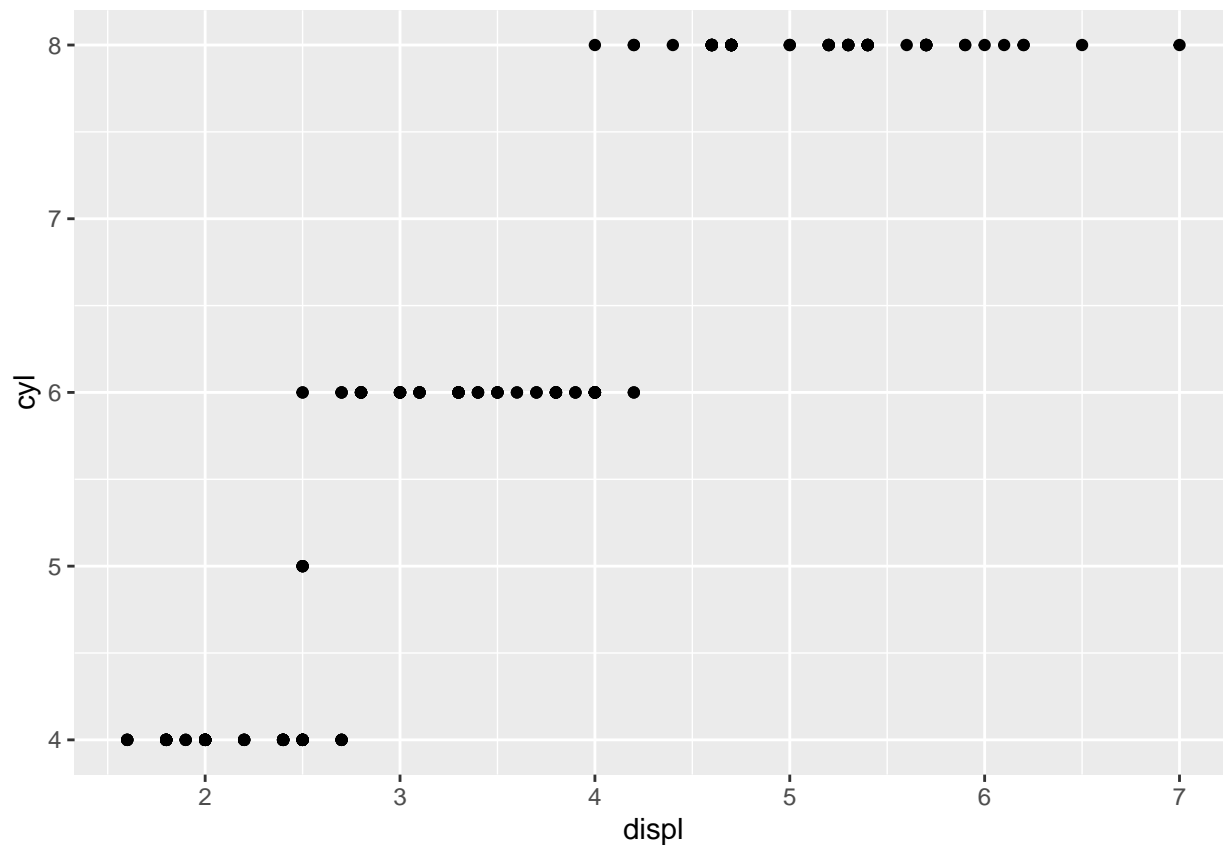
```
plot(cars)
```

"Based on the scatterplot below there's a clear correlation between the distance the car travelled and

[1] "Based on the scatterplot below there's a clear correlation between the distance the car travelle
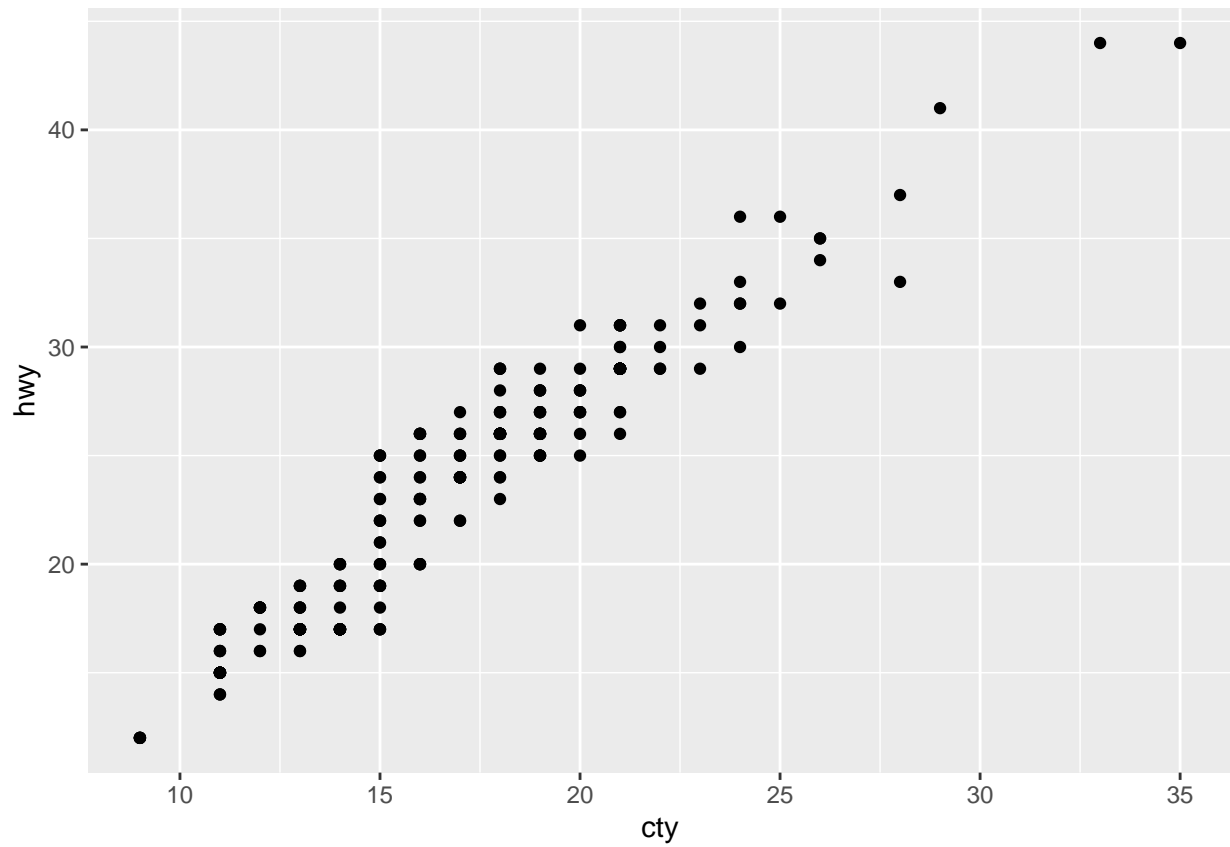"Question 5"

[1] "Question 5"

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = cyl))
```

```
"Based on the scatterplot, the higher the cylinder count the greater the displacement of the engine. Fo
```

```
## [1] "Based on the scatterplot, the higher the cylinder count the greater the displacement of the eng
```

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = cty, y = hwy))
```

"This plot shows a strong correlation between highway mpg and cty mpg. The greater city mpg, the greater

[1] "This plot shows a strong correlation between highway mpg and cty mpg. The greater city mpg, the