Lab 1: Solutions to Practice Problems

STAT 630, Fall 2021

Exercise 1

```
sum(1:1000)
```

```
## [1] 500500
```

Exercise 2

```
seq(3, 60, by = 3)
```

```
##  [1]  3  6  9 12 15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60
```

Exercise 3

```
min(mtcars$wt)
```

```
## [1] 1.513
```

```
max(mtcars$wt)
```

```
## [1] 5.424
```

```
mean(mtcars$wt)
```

```
## [1] 3.21725
```

```
median(mtcars$wt)
```

```
## [1] 3.325
```

Or you can use `summary()` to compute all these at once:

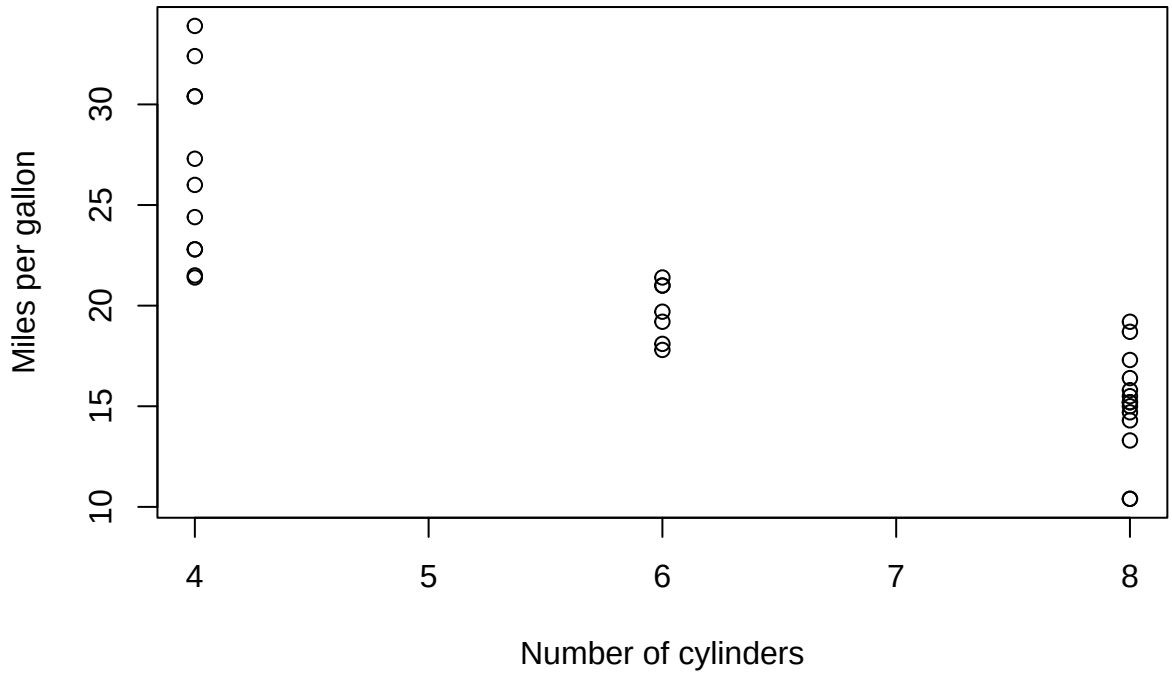
```
summary(mtcars$wt)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   1.513   2.581   3.325   3.217   3.610   5.424
```

Exercise 4

There is a negative association between the number of cylinders and miles per gallon (mpg). As the number of cylinders increases, the mpg of the car decreases.

```
plot(mtcars$cyl, mtcars$mpg, xlab = "Number of cylinders", ylab = "Miles per gallon")
```



Exericse 5

The Lotus Europa has the minimum weight. The Lincoln Continental has the maximum weight.

```
mtcars[which.min(mtcars$wt), ]
```

```
##               mpg cyl disp  hp drat    wt qsec vs am gear carb
## Lotus Europa 30.4   4 95.1 113 3.77 1.513 16.9  1  1    5    2
```

```
mtcars[which.max(mtcars$wt), ]
```

```
##                     mpg cyl disp  hp drat    wt  qsec vs am gear carb
## Lincoln Continental 10.4   8  460 215    3 5.424 17.82  0  0    3    4
```

Exercise 6

```
x <- c(1, 0, FALSE, TRUE)
y <- c(1, 2, "three")
z <- c("TRUE", FALSE)
```

```
x
```

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

```
class(x)
```

```
## [1] "numeric"
```

```
y
```

```
## [1] "1"     "2"     "three"
```

```
class(y)
```

```
## [1] "character"
```

```
z
```

```
## [1] "TRUE"  "FALSE"
```

```
class(z)
```

```
## [1] "character"
```