Lab 1: Solutions to Practice Problems

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Exercise 1

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

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

Exercise 2

```
seq(2, 200, by=2)
```

```
##   [1]   2   4   6   8  10  12  14  16  18  20  22  24  26  28  30  32  34  36
##  [19]  38  40  42  44  46  48  50  52  54  56  58  60  62  64  66  68  70  72
##  [37]  74  76  78  80  82  84  86  88  90  92  94  96  98 100 102 104 106 108
##  [55] 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144
##  [73] 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180
##  [91] 182 184 186 188 190 192 194 196 198 200
```

Exercise 3

```
c(rep("a", 10), rep("b", 20))
```

```
##  [1] "a" "a" "a" "a" "a" "a" "a" "a" "a" "a" "b" "b" "b" "b" "b" "b" "b" "b" "b"
## [20] "b" "b" "b" "b" "b" "b" "b" "b" "b" "b" "b"
```

Exercise 4

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

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

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

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

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

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

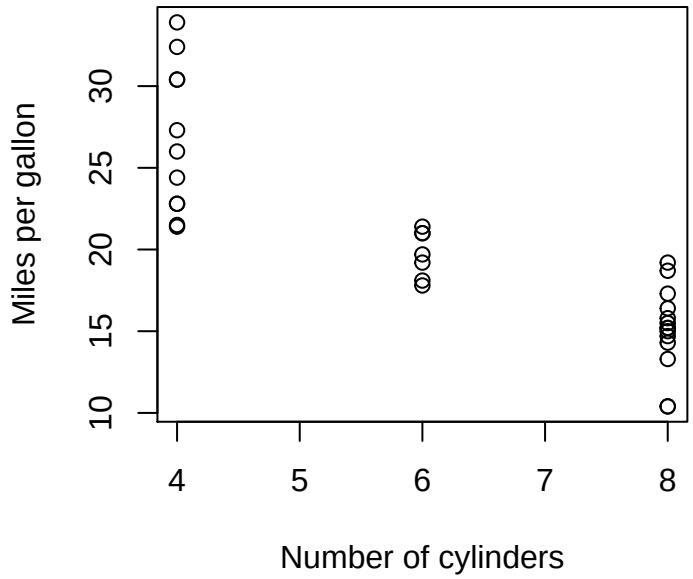
```
median(mtcars$wt)
```

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

Exercise 5

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 6

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
```