# M10_Exercises

Code

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# Exercise 10.1

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```
#write an R script (not a function) to get the first 20 fibonacci numbers
fibonacci <- numeric(10) #created a numeric vector
fibonacci[1] <- fibonacci[2] <- 1
for (i in 3:10){
  fibonacci <- fibonacci[i-2] + fibonacci[i-1]

}

print(fibonacci)
```

# Exercise 10.2

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```
get_fibonacci <- function(n = 10){
  fibonacci <- numeric(n)
  fibonnaci[1] <- fibonacci[2] <- 1
  for (i in 3:n){
    fibonacci[i] <-fibonacci[i-2] + fibonacci[i-1]
  }
  return(fibonacci)
}

fib20 <- get_fibonacci(10)

print(fib20)
```

# Exercise 10.3

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```
#write a function that takes a numeric x and returns 1 if 0 <= x <= 1
#else returns 0

my_function <- function(x){
  if(x >=0 & x <= 1){
    return(1)
  }
  else{
    return(0)
  }
}


test <- my_function(10)
print(test)
```

# Exercise 10.4

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```
#apply the function to five values
for(i in 1:5){
  print(my_function(i))
}
```

# Exercise 10.5

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```
letters

print(letters[1:10])
print(LETTERS[-1:-10])
print(LETTERS[22:24])
```

# Exercise 10.6

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```
print(1:100)

for(i in 1:100){
  if(i %% 3 == 0 & i%%5 != 0){
    print(paste(i, "Fizz"))
  }
  else if (i %% 3 != 0 & i%%5 == 0){
    print(paste(i,"Buzz"))
  }
  else if (i %% 3 == 0 & i%%5 == 0){
    print(paste(i,"FizzBuzz"))

  }
  else{
    print(i)
  }
}
```

# Exercise 10.7

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```
my_str <- "I love apples and cherries"
string <- unlist(strsplit(tolower(my_str), ' '))
print(string)
print(unique(string))
A <- c(1, 2,3,4,5,5,5,6,7,7,8,8,9)
unique(A)
unique(my_str)
```

Hide

```
s <- seq(0, 1, by=0.1)
smax <- max(s)
smin <- min(s)
s_len <- length(s)
if (s_len < 5){
    print(smin)
} else {
    print(smax)
}
```

```
[1] 1
```

# Exercise 10.8

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```
x = c(1,4,5,6,1,3,7,9,1,10,1)

print(max(x))
```

```
[1] 10
```

Hide

```
print(min(x))
```

```
[1] 1
```

# Exercise 10.9

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```
seq(20,50)
```

```
 [1] 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 5
0
```

Hide

```
x <- seq(20,60)
print(mean(x))
```

```
[1] 40
```

Hide

```
print(sum(51:91))
```

```
[1] 2911
```

# Exercise 10.10

| PassengerId | Survived | Pclass | Name |
|---|---|---|---|
| <int> | <int> | <fctr> | <chr> |
| 1 | 0 | 3rd class | Braund, Mr. Owen Harris |
| 2 | 1 | 1st class | Cumings, Mrs. John Bradley (Florence Briggs Thayer) |
| 3 | 1 | 3rd class | Heikkinen, Miss. Laina |
| 4 | 1 | 1st class | Futrelle, Mrs. Jacques Heath (Lily May Peel) |

| PassengerId <int> | Survived <int> | Pclass <fctr> | Name <chr> |
|---|---|---|---|
| 5 | 0 | 3rd class | Allen, Mr. William Henry |
| 6 | 0 | 3rd class | Moran, Mr. James |
| 7 | 0 | 1st class | McCarthy, Mr. Timothy J |
| 8 | 0 | 3rd class | Palsson, Master. Gosta Leonard |
| 9 | 1 | 3rd class | Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg) |
| 10 | 1 | 2nd class | Nasser, Mrs. Nicholas (Adele Achem) |

# Exercise 10.11

| Ozone <int> | Solar.R <int> | Wind <dbl> | Temp <int> | Month <int> | Day <int> |
|---|---|---|---|---|---|
| 41 | 190 | 7.4 | 67 | 5 | 1 |
| 36 | 118 | 8.0 | 72 | 5 | 2 |
| 12 | 149 | 12.6 | 74 | 5 | 3 |
| 18 | 313 | 11.5 | 62 | 5 | 4 |
| *NA* | *NA* | 14.3 | 56 | 5 | 5 |
| 28 | *NA* | 14.9 | 66 | 5 | 6 |
| 23 | 299 | 8.6 | 65 | 5 | 7 |
| 19 | 99 | 13.8 | 59 | 5 | 8 |
| 8 | 19 | 20.1 | 61 | 5 | 9 |
| *NA* | 194 | 8.6 | 69 | 5 | 10 |

1-10 of 153 rows Previous **1** 2 3 4 5 6 ... 16 Next

Hide

```
airquality

airquality[c(3,5),c(1,3)]
```

| | Ozone <int> | Wind <dbl> |
|---|---|---|
| 3 | 12 | 12.6 |
| 5 | *NA* | 14.3 |

2 rows

# Exercise 10.12

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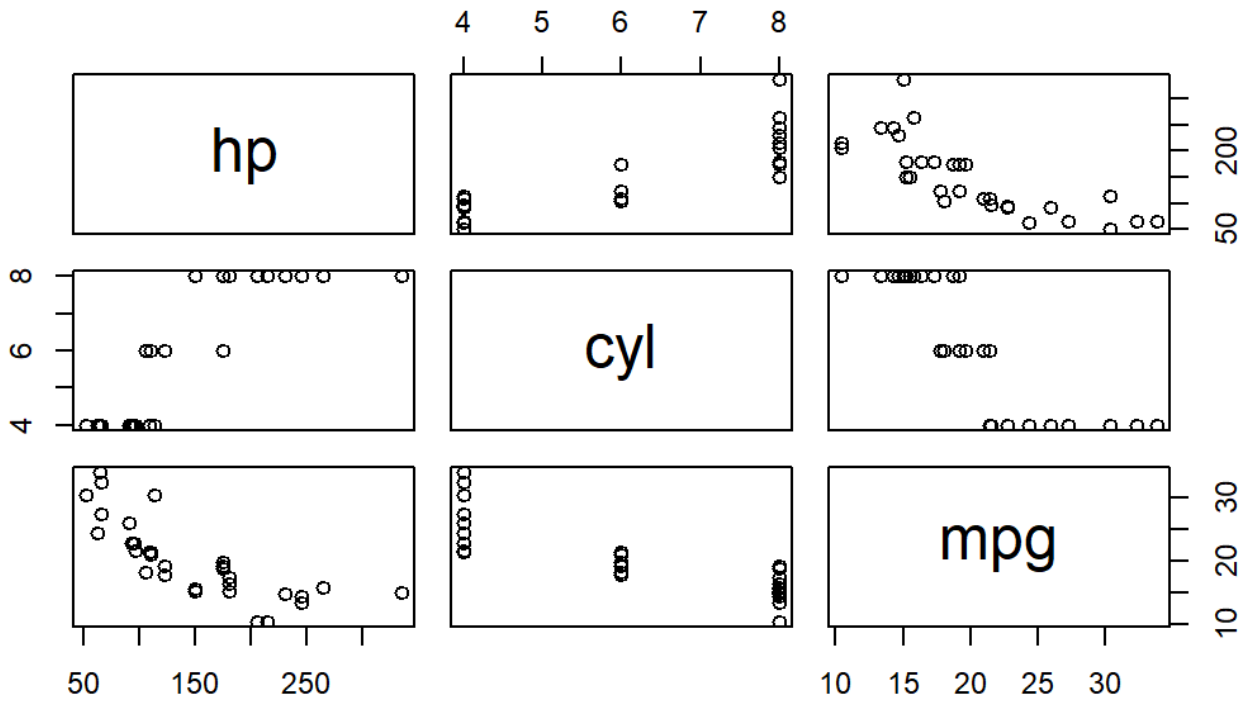
```
plot(mtcars[ , c('hp', 'cyl', 'mpg')])
```




# Exercise 10.13