# Week 1 Quiz

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### 17/02/2020

**Question 6**

If I have two vectors x <- c(1,3, 5) and y <- c(3, 2, 10), what is produced by the expression rbind(x, y)

```r
x <- c(1, 3, 5)
y <- c(3, 2, 10)
rbind(x, y)
```

```
##   [,1] [,2] [,3]
## x    1    3    5
## y    3    2   10
```

**Question 8**

Suppose I have a list defined as x <- list(2, "a", "b", TRUE). What does x[[1]] give me? Select all that apply.

```r
x <- list(2, "a", "b", TRUE)
x[[1]]
```

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

```r
class(x[[1]])
```

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

```r
class(x)
```

```
## [1] "list"
```

—

```r
hw1_data <- read.csv("C:/Users/lastd/OneDrive - The Ottawa Hospital/Projects/R Projects/01_RCourse/data
```

**Question 11**

In the dataset provided for this Quiz, what are the column names of the dataset?

```
colnames(hw1_data)
```

```
## [1] "Ozone"   "Solar.R" "Wind"    "Temp"    "Month"   "Day"
```

**Question 12**

Extract the first 2 rows of the data frame and print them to the console. What does the output look like?

```
hw1_data[1:2,]
```

```
##   Ozone Solar.R Wind Temp Month Day
## 1    41     190  7.4   67     5   1
## 2    36     118  8.0   72     5   2
```

**Question 13**

How many observations (i.e. rows) are in this data frame?

```
nrow(hw1_data)
```

```
## [1] 153
```

**Question 14**

Extract the last 2 rows of the data frame and print them to the console. What does the output look like?

```
hw1_data[152:153, ]
```

```
##     Ozone Solar.R Wind Temp Month Day
## 152    18     131  8.0   76     9  29
## 153    20     223 11.5   68     9  30
```

**Question 15**

What is the value of Ozone in the 47th row?

```
hw1_data[47, "Ozone"]
```

```
## [1] 21
```

**Question 16**

How many missing values are in the Ozone column of this data frame?

```
table(is.na(hw1_data$Ozone))
```

```
##
## FALSE  TRUE
##   116    37
```

**Question 17**

What is the mean of the Ozone column in this dataset? Exclude missing values (coded as NA) from this calculation.

```
na_values <- is.na(hw1_data$Ozone)

ozone <- hw1_data$Ozone[!na_values]

mean(ozone)
```

```
## [1] 42.12931
```

**Question 18**

Extract the subset of rows of the data frame where Ozone values are above 31 and Temp values are above 90. What is the mean of Solar.R in this subset?

```
q18_data_pre <- hw1_data[complete.cases(hw1_data), ]
q18_data <- q18_data_pre[q18_data_pre$Ozone > 31 & q18_data_pre$Temp > 90, ]

mean(q18_data$Solar.R)
```

```
## [1] 212.8
```

**Question 19**

What is the mean of "Temp" when "Month" is equal to 6?

```
q19_data <- hw1_data$Temp[hw1_data$Month == 6]
mean(q19_data)
```

```
## [1] 79.1
```

**Question 20**

What was the maximum ozone value in the month of May (i.e. Month is equal to 5)?

```
q20_data_raw <- hw1_data$Ozone[hw1_data$Month == 5]

na_values <- is.na(q20_data_raw)

q20_data <- q20_data_raw[!na_values]

max(q20_data)
```

```
## [1] 115
```