Homework 1

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## Problem 1

// 1. This variable does not work because R does not allow a variable to start with a number.

// 2. A period is allowed in the beginning of variables but since the period is followed by a number, it is not allowed.

// 4. Leading underscores are not allowed in R.

// 6. This variable contains a space which the complier reads as the variable name is now just the number so it will assign the value to simply the number which will result in a crash.

// 7. Having parenthesis will make R think you are declaring a function and functions cannot be assigned a variable.

## Problem 2

### Part A

553.9/51.3

## [1] 10.79727

### Part B

floor(533.9/51.3)

## [1] 10

### Part C

(553.9/679.4)\*100

## [1] 81.52782

### Part D

Q2 <- (559.9/608.8)\*100  
sprintf("Q2 Profit: %s", Q2)

## [1] "Q2 Profit: 91.9678055190539"

Q3 <- (553.9/679.4)\*100  
sprintf("Q3 Profit: %s", Q3)

## [1] "Q3 Profit: 81.5278186635266"

if(Q2 - Q3 != 0){  
print ("Yes")  
}

## [1] "Yes"

### Part E

Q2 <- (559.9/608.8)\*100  
Q3 <- (553.9/679.4)\*100  
Q2-Q3

## [1] 10.43999

### Part F

107.5-51.3

## [1] 56.2

## Problem 3

### Part A

vecA <- rep("Q1",times=4)  
vecA

## [1] "Q1" "Q1" "Q1" "Q1"

### Part B

vecB <- seq(from = 50.0,to = 100.0,by = 2.5)  
vecB

## [1] 50.0 52.5 55.0 57.5 60.0 62.5 65.0 67.5 70.0 72.5 75.0  
## [12] 77.5 80.0 82.5 85.0 87.5 90.0 92.5 95.0 97.5 100.0

### Part C

vecC <- rep(2010:2017, each=4)  
vecC

## [1] 2010 2010 2010 2010 2011 2011 2011 2011 2012 2012 2012 2012 2013 2013  
## [15] 2013 2013 2014 2014 2014 2014 2015 2015 2015 2015 2016 2016 2016 2016  
## [29] 2017 2017 2017 2017

### Part D

vecD <- rep(2016:2017, c(4,3))  
vecD

## [1] 2016 2016 2016 2016 2017 2017 2017

### Part E

vecE <- rep(1295:1300)  
vecE2 <- seq(from = 1299, to = 1290, by = -1)  
c(vecE,vecE2)

## [1] 1295 1296 1297 1298 1299 1300 1299 1298 1297 1296 1295 1294 1293 1292  
## [15] 1291 1290

### Part F

vecF <- seq(from = 4160,to = 3530,by = -105)  
vecF

## [1] 4160 4055 3950 3845 3740 3635 3530