

Lab assignment 2

AUTHOR

Mary Boateng

Part 1

section 1

Assign the vector object to the variable by executing the code below.

```
lab_vector <- c("ARDS", "ARDS", "HPT", "HPT", "Diabetes", "Diabetes", "ARDS", "Diabetes", "HPT", "I")
lab_vector
```

```
[1] "ARDS"      "ARDS"      "HPT"       "HPT"       "Diabetes"  "Diabetes"
[7] "ARDS"      "Diabetes"  "HPT"       "HPT"
```

Instantiate a counter using the variable `n` and assign the value 0 to it

```
n <- 0
n
```

```
[1] 0
```

Loop through `lab_vector` and increment the value in `n` by 1 if the element in the vector is "ARDS"

```
for (i in lab_vector) {
  if (i == "ARDS") {
    n <- n + 1
  }
}
```

Print the value in `n` to show how many times "ARDS" appears in the vector

```
n
```

```
[1] 3
```

Part 2

section 1

Generate a user-defined function that subtracts two numeric values and squares the difference

```
subtract_and_square <- function(a, b) {  
  difference <- a - b  
  squared_difference <- difference^2  
  return(squared_difference)  
}  
subtract_and_square(5, 3) # should return 4
```

```
[1] 4
```

section 2

Generate a user-defined function with a single argument that returns the argument as a character type.

```
Character_generator <- function(x) {return(as.character(x))}  
Character_generator(5) # should return "5"
```

```
[1] "5"
```

section 3

Generate a user-defined function that takes a vector as input. Include interim code in the body of the function to hold values for the sum and the length of the argument. The relevant R functions are `sum` and `length`. Use these interim results to determine the mean of the values in the vector

```
mean_calculator <- function(vec) {  
  total_sum <- sum(vec)  
  vec_length <- length(vec)  
  mean_value <- total_sum / vec_length  
  return(mean_value)  
}  
mean_calculator(c(1, 2, 3, 4, 5)) # should return 3
```

```
[1] 3
```