RWorksheet_Palabrica#4b

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Using Loop Function

for() loop

1. Using the for loop, create an R script that will display a 5x5 matrix as shown in

Figure 1. It must contain vectorA = [1,2,3,4,5] and a 5 x 5 zero matrix.

Hint Use abs() function to get the absolute value

```
matrixA <- matrix(0, nrow = 5, ncol = 5)
vectorA <- c(1, 2, 3, 4, 5)

for (i in 1:5) {
  for (j in 1:5) {
    matrixA[i, j] <- abs(i - j)
  }
}

print(matrixA)
```

```
##      [,1] [,2] [,3] [,4] [,5]
## [1,]    0    1    2    3    4
## [2,]    1    0    1    2    3
## [3,]    2    1    0    1    2
## [4,]    3    2    1    0    1
## [5,]    4    3    2    1    0
```

```
rows <- 5

for (i in 1:rows) {
  cat(rep('"*"', i), "\n")
}
```

```
## "*"
## "*" "*"
## "*" "*" "*"
## "*" "*" "*" "*"
## "*" "*" "*" "*" "*"
```

3. Get an input from the user to print the Fibonacci sequence starting from the 1st input up to 500. Use repeat and break statements. Write the R Scripts and its output.

Using Basic Graphics (plot(),barplot(),pie(),hist())

4. Import the dataset as shown in Figure 1 you have created previously.

a. What is the R script for importing an excel or a csv file? Display the first 6 rows of the data set? Show your codes and its result

```
library(readr)

data <- read_csv("/cloud/project/Worksheet#4/shoe_size2.csv")
```

```
## New names:
## Rows: 28 Columns: 6
## -- Column specification
## -------------------------------------------------------- Delimiter: "," chr
## (1): Gender dbl (2): Shoe size, Height lgl (3): ...4, ...5, ...6
## i Use `spec()` to retrieve the full column specification for this data. i
## Specify the column types or set `show_col_types = FALSE` to quiet this message.
## * `` -> `...4`
## * `` -> `...5`
## * `` -> `...6`
```

```
data
```

```
## # A tibble: 28 x 6
##    `Shoe size` Height Gender ...4  ...5  ...6
##          <dbl>  <dbl> <chr>  <lgl> <lgl> <lgl>
##  1         6.5   66   F      NA    NA    NA
##  2         9     68   F      NA    NA    NA
##  3         8.5   64.5 F      NA    NA    NA
##  4         8.5   65   F      NA    NA    NA
##  5        10.5   70   M      NA    NA    NA
##  6         7     68   F      NA    NA    NA
##  7         9.5   70   M      NA    NA    NA
##  8         9     71   F      NA    NA    NA
##  9        13     72   M      NA    NA    NA
## 10         7.5   64   M      NA    NA    NA
## # i 18 more rows
```

b. Create a subset for gender(female and male). How many observations are there in Male? How about in Female? Write the R scripts and its output.

```
female_subset <- subset(data, Gender == "F")
male_subset <- subset(data, Gender == "M")

# Count observations in each subset
female_count <- nrow(female_subset)
male_count <- nrow(male_subset)

# Print counts for each gender
cat("Female:", female_count, "\n")
```

```
## Female: 13
```

```
cat("Male:", male_count, "\n")
```

```
## Male: 15
```

c. Create a graph for the number of males and females for Household Data. Use plot(), chart type = barplot. Make sure to place title, legends, and colors. Write the R scripts and its result.

```
# Count the number of males and females
gender_counts <- table(data$Gender)
```

```r
# Create a barplot
barplot(gender_counts, main = "Number of Males and Females",
        col = c("pink", "lightblue"), names.arg = c("Female", "Male"),
        ylab = "Count", xlab = "Gender", legend = TRUE)
```