RWorksheet_lomugda#4a

2023-10-25

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

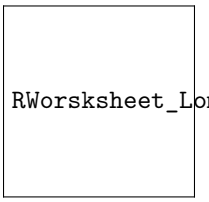
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

#1

household_data <- data.frame(Shoesize = c(6.5,9.0,8.5,8.5,10.5,7.0,9.5,9.0,13.0,7.5,10.5,8.5,12.0,10.5,13.0,11.5,8.5,5.0,10.0,6.5,7.
Height = c(66.0,68.0,64.5,65.0,70,64.0,70.0,71.0,72.0,64.0,74.5,67.0,71.0,71.0,77.0,72.0,59.0,62.0,72.0,66.0,64.0,67.0,73.0,69.0,72.0
Gender = c("F","F","F","F","M","F","F","F","M","F","M","F","M","M","M","M","F","F","M","F","F","M","M","F","M","
) household_data

names(household_data) <- c("Shoe size","Height","Gender") household_data

#1a the males height and shoe size is higher than the females height and weight

#1b Male <- subset(household_data, Gender == 'M')

Female<- subset(household_data, Gender == 'F')

#1c mean_shoe <- mean(household_data$Shoesizehousehold_data$Height) mean_shoe

#1d Is there a relationship between shoe size and height? Why? # Yes, Because if you're tall you have big shoe size and if you're short you have small shoe size.

#2 Month <- c(“March”,“April”,“January”,“November”,“January”, “September”,“October”,“September”,“November”,“August “January”,“November”,“November”,“February”,“May”,“August”,“July”,“December”,“August”,“August”,“September”,“Novemb factor_months_vector <- factor(Month) factor_months_vector

#3 summary(Month) summary(factor_months_vector) # the results display how many the months that put in the vector and display how many of the same months in the vector. it also display their data type.

#4 Direction <- c(“East”,“West”,“North”) Frequency <- c(1,4,3)

factor_direc <- factor(Direction) factor_direc

factor_freq <- factor(Frequency) factor_freq

new_order_data <- factor(factor_direc,levels = c(“East”,“West”,“North”)) print(new_order_data)

new_order_data2 <- factor(factor_freq,levels = c(1,4,3)) print(new_order_data2)

#5a Exceldata <- read.csv(“/cloud/project/MyWorksheet1_Lomugda/RWorksheet#4a_lomugda/import_march.csv”) #5b Exceldata

#6 Full Search number_input <- as.numeric(readline(prompt = “Enter a number from 1 to 50:”))

if (is.na(number_input) || number_input < 1 || number_input > 50) { print(“The number is beyond the range of 1 to 50”) } else { print(“TRUE”) }

#7Change minimumprice <- function(price) { minprice <- price / 50 paste(“The minimum no. of bills:”, minprice) }

Example usage:

price <- 250 result <- minimumprice(price) print(result)

minimumprice(90)

#8a Create a data frame mathgrades <- data.frame(Name = c(“Annie”,“Thea”,“Steve”,“Hanna”), Grade1 = c(85,65,75,95), Grade2 = c(65,75,55,75), Grade3 = c(85,90,80,100), Grade4 = c(100,90,85,90)) mathgrades

#8b

Calculate the average grade

mathgrades$Average <- -(mathgrades$Grade1 + mathgrades$Grade2+mathgrades$Grade3 + mathgrades$Grade4)/4high_grades -mathgrades[mathgrades$Average > 90,]

if (nrow(high_grades) > 0) { # Print the names and average grades of high-achieving students for (i in 1:nrow(high_grades)) { cat(high_grades$Name[i], "'saveragegradethissemesteris : ", high_grades$Average[i], “”) } } else { print(“There is no student that got an average grade above 90 this semester.”) }

#8c average_scores <- colMeans(mathgrades[, -1])

steve scores

if (mathgrades[3,2] > mathgrades[3,3] &&mathgrades[3,2] > mathgrades[3,4] && mathgrades[3,2] >mathgrades[3,5]) { stevescore <- mathgrades[3,2] } else if (mathgrades[3,3] > mathgrades[3,4] && mathgrades[3,3] > mathgrades[3,5]) { stevescore <- mathgrades[2,3] } else if (mathgrades[3,4] > mathgrades[3,5] && mathgrades[3,2] > mathgrades[3,5]) { stevescore <- mathgrades[3,4] } else { stevescore <- mathgrades[3,5] } if (average_scores[1] < 80) { print(“The 1st test was difficult.”) }else if (average_scores[2] < 80) { print(“The 2nd test was difficult.”) }else if (average_scores[3] < 80) { print(“The 3rd test was difficult.”) }else if (average_scores[4] < 80) { print(“The 4th test was difficult.”) }else{ print(“No test that students find it difficult”) }

#8d #annie mathgrades$Average < -(mathgrades$Grade1 + mathgrades$Grade2 + mathgrades$Grade3 + mathgrades$Grade4)/4high_achievers < -mathgrades[mathgrades$Average > 90,]

if (nrow(high_achievers) > 0) { # Print the names and average grades of high-achieving students for (i in 1:nrow(high_achievers)) { cat(high_achievers$Name[i], "'s average grade this semester is : ", high_achievers$Average[i], "") } } else { print("There are no students with an average grade above 90 this semester.") }

thea scores

if (mathgrades[2,2] > mathgrades[2,3] && mathgrades[2,2] >mathgrades[2,4] && mathgrades[2,2] > mathgrades[2,5]) { theascore <- mathgrades[2,2] } else if (mathgrades[2,3] > mathgrades[2,4] &&mathgrades[2,3] > mathgrades[2,5]) { theascore <- mathgrades[2,3] } else if (mathgrades[2,4] > mathgrades[2,5] && mathgrades[2,2] > mathgrades[2,5]) { theascore <- mathgrades[2,4] } else { theascore <-mathgrades[2,5] }

hanna scores

if (mathgrades[4,2] > mathgrades[4,3] && mathgrades[4,2] > mathgrades[4,4] && mathgrades[4,2] > mathgrades[4,5]) { hannascore <- mathgrades[4,2] } else if (mathgrades[4,3] > mathgrades[4,4] && mathgrades[4,3] > mathgrades[4,5]) { hannascore <- mathgrades[2,3] } else if (mathgrades[4,4] > mathgrades[4,5] && mathgrades[4,2] > mathgrades[4,5]) { hannascore <- mathgrades[4,4] } else { hannascore <- mathgrades[4,5] }

mathgrades$HighestGrades <- c(anniescore, theascore, stevescore, hannascore)

highest90 <- mathgrades[mathgrades$HighestGrades > 90,] highest90

if (nrow(highest90) > 0) { paste(highest90$Name, "'s highest grade this semester is", highest90$HighestGrade) } else { paste("No students have an average math score over 90.") }