

RWorksheet_Ganon#4a

Ganon, Andrew Vinz C.

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```
#1
Datar <- read.csv("HouseData.csv")

#a. the data shows the different shoe sizes, height and the gender of the people in the household.

#b.
male <- subset(Datar, Gender == "M" & Shoe.size&Height)
male
```

##	Shoe.size	Height	Gender
## 5	10.5	70.0	M
## 9	13.0	72.0	M
## 11	10.5	74.5	M
## 13	12.0	71.0	M
## 14	10.5	71.0	M
## 15	13.0	77.0	M
## 16	11.5	72.0	M
## 19	10.0	72.0	M
## 22	8.5	67.0	M
## 23	10.5	73.0	M
## 25	10.5	72.0	M
## 26	11.0	70.0	M
## 27	9.0	69.0	M
## 28	13.0	70.0	M

```
female <- subset(Datar, Gender == "F" & Shoe.size&Height)
female
```

##	Shoe.size	Height	Gender
## 1	6.5	66.0	F
## 2	9.0	68.0	F
## 3	8.5	64.5	F
## 4	8.5	65.0	F
## 6	7.0	64.0	F
## 7	9.5	70.0	F
## 8	9.0	71.0	F
## 10	7.5	64.0	F
## 12	8.5	67.0	F
## 17	8.5	59.0	F
## 18	5.0	62.0	F
## 20	6.5	66.0	F
## 21	7.5	64.0	F
## 24	8.5	69.0	F

```
#c mean1 <- mean(DatarShoe.size)mean1mean2 <- mean(DatarHeight) mean2
```

```
#d yes there is a relationship between the size of the male and the female shoe size and height.
```

```
#2.
```

```
Months <- c("March", "April", "January", "November", "January", "September", "October", "September", "November")
```

```
factor_monthsvector <- factor(Months)
factor_monthsvector
```

```
## [1] March      April      January   November  January   September October
## [8] September November August    January   November  November  February
## [15] May        August    July      December  August    August    September
## [22] November  February  April
## 11 Levels: April August December February January July March May ... September
```

```
#3.
```

```
Summation <- summary(Months)
Summation
```

```
##      Length      Class      Mode
##          24 character character
```

```
Summation2 <- summary(factor_monthsvector)
Summation2
```

```
##      April      August  December  February   January      July      March      May
##          2         4         1         2         3         1         1         1
## November  October September
##          5         1         3
```

```
#4.
```

```
List <- c("East", "West", "North", 1, 4, 3)
```

```
factor_data <- matrix(List, nrow=3, ncol=2)
factor_data
```

```
##      [,1] [,2]
## [1,] "East" "1"
## [2,] "West" "4"
## [3,] "North" "3"
```

```
#4.1
```

```
colnames(factor_data) <- c("Direction", "Frequency")
factor_data
```

```
##      Direction Frequency
## [1,] "East"      "1"
## [2,] "West"      "4"
## [3,] "North"     "3"
```

```
#5. a
```

```
setwd("/cloud/project/Worksheet4")
Strats <- read.table("import_march.csv", header= TRUE, sep = ",")
Strats
```

```
##      Students Strategy.1 Strategy.2 Strategy.3 X
## 1      Male           8           10           8 NA
```

```
## 2          4          8          6 NA
## 3          0          6          4 NA
## 4          NA         NA         NA NA
## 5 Female    14         4         15 NA
## 6          10         2         12 NA
## 7          6          0          9 NA
```

```
#5 b
```

```
str("import_march")
```

```
## chr "import_march"
```

```
6. a.
```

```
selection <- readline(prompt="Enter Number:")
```

```
## Enter Number:
```

```
if(selection <= 50){
  selection
  if (selection == 20){
    print("TRUE")
  }else{
    print(selection)
  }
}
```

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

```
7.
```

```
snackPrice<-readline(prompt = "Enter Amount: ")
```

```
## Enter Amount:
```

```
if (snackPrice == 50){
  print("The minimum bill is : 100")
}else if(snackPrice == 100){
  print("The minimum bill is : 100")
}else if(snackPrice == 200){
  print("The minimum bill is : 200")
}else if(snackPrice == 500){
  print("The minimum bill is : 500")
}else if(snackPrice == 1000){
  print("The minimum bill is : 1000")
}else{
  print("The number is not divisible by 50")
}
```

```
## [1] "The number is not divisible by 50"
```

```
8.
```

```
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)
```

```
student_data <-data.frame (Name,Grade1,Grade2,Grade3,Grade4)
student_data
```

```
##      Name Grade1 Grade2 Grade3 Grade4
## 1 Annie      85      65      85      100
## 2 Thea       65      75      90      90
## 3 Steve      75      55      80      85
## 4 Hanna      95      75     100      90
```

#b.

```
for (i in 1:nrow(student_data)) {
  avg_score <- (student_data[i, "Grade1"] + student_data[i, "Grade2"] + student_data[i, "Grade3"] + stu
  if (avg_score > 90) {
    cat(sprintf("%s's average grade this semester is %.2f. ", student_data[i, "Name"], avg_score))
  }
}
```

#c

```
test_averages <- colMeans(student_data[2:5])

# Check for tests with average less than 80
for (j in 1:length(test_averages)) {
  if (test_averages[j] < 80) {
    cat(sprintf("The %dnd test was difficult.\n", j))
  }
}
```

The 2nd test was difficult.

```
for (i in 1:nrow(student_data)) {
  highest_score <- student_data[i, 2:5][1]
  for (j in 2:4) {
    if (student_data[i, j + 1] > highest_score) {
      highest_score <- student_data[i, j + 1]
    }
  }
  if (highest_score > 90) {
    cat(sprintf("%s's highest grade this semester is %d.\n", student_data$Name[i], highest_score))
  }
}
```

Annie's highest grade this semester is 100.

Hanna's highest grade this semester is 100.