Practical

Nicole De Luna

2024-03-07

```
data("warpbreaks")
warpbreaks
```

```
##    breaks wool tension
## 1      26    A       L
## 2      30    A       L
## 3      54    A       L
## 4      25    A       L
## 5      70    A       L
## 6      52    A       L
## 7      51    A       L
## 8      26    A       L
## 9      67    A       L
## 10     18    A       M
## 11     21    A       M
## 12     29    A       M
## 13     17    A       M
## 14     12    A       M
## 15     18    A       M
## 16     35    A       M
## 17     30    A       M
## 18     36    A       M
## 19     36    A       H
## 20     21    A       H
## 21     24    A       H
## 22     18    A       H
## 23     10    A       H
## 24     43    A       H
## 25     28    A       H
## 26     15    A       H
## 27     26    A       H
## 28     27    B       L
## 29     14    B       L
## 30     29    B       L
## 31     19    B       L
## 32     29    B       L
## 33     31    B       L
## 34     41    B       L
## 35     20    B       L
## 36     44    B       L
## 37     42    B       M
## 38     26    B       M
## 39     19    B       M
```

```
## 40     16    B       M
## 41     39    B       M
## 42     28    B       M
## 43     21    B       M
## 44     39    B       M
## 45     29    B       M
## 46     20    B       H
## 47     21    B       H
## 48     24    B       H
## 49     17    B       H
## 50     13    B       H
## 51     15    B       H
## 52     15    B       H
## 53     16    B       H
## 54     28    B       H
```

1.

```
str(warpbreaks)
```

```
## 'data.frame':    54 obs. of  3 variables:
##  $ breaks : num  26 30 54 25 70 52 51 26 67 18 ...
##  $ wool   : Factor w/ 2 levels "A","B": 1 1 1 1 1 1 1 1 1 1 ...
##  $ tension: Factor w/ 3 levels "L","M","H": 1 1 1 1 1 1 1 1 1 2 ...
```

2. How many observations does it have?

```
#answer
#it has 54 observations.
```

3.

```
typeof(warpbreaks$breaks)
```

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

```
typeof(warpbreaks$wool)
```

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

```
typeof(warpbreaks$tension)
```

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

4.

B. Load the exampleFile.txt 1.

```
file <-file("exampleFile.txt")

readfile<- readLines(file)
readfile
```

```
## [1] "// Survey data. Created : 21 May 2013"
## [2] "// Field 1: Gender"
## [3] "// Field 2: Age (in years)"
## [4] "// Field 3: Weight (in kg)"
## [5] "M;28;81.3"
## [6] "male;45;"
```

```
## [7] "Female;17;57,2"
## [8] "fem.;64;62.8"
```

B2.

```
comments <- readfile[grepl("^//", readfile)]
comments
```

```
## [1] "// Survey data. Created : 21 May 2013"
## [2] "// Field 1: Gender"
## [3] "// Field 2: Age (in years)"
## [4] "// Field 3: Weight (in kg)"
```

```
dateLine<- readfile[grepl("^//", readfile)]
dateLine
```

```
## [1] "// Survey data. Created : 21 May 2013"
## [2] "// Field 1: Gender"
## [3] "// Field 2: Age (in years)"
## [4] "// Field 3: Weight (in kg)"
```

B3.

```
subcomment <- (comments)[1]

date <-gsub ("//Survey data, Created : ", "", subcomment)
date
```

```
## [1] "// Survey data. Created : 21 May 2013"
```

```
cat ("It was created: ", date,"/n")
```

```
## It was created:  // Survey data. Created : 21 May 2013 /n
```

B4a.

```
splitdata <- strsplit(dateLine, ";")
splitdata
```

```
## [[1]]
## [1] "// Survey data. Created : 21 May 2013"
##
## [[2]]
## [1] "// Field 1: Gender"
##
## [[3]]
## [1] "// Field 2: Age (in years)"
##
## [[4]]
## [1] "// Field 3: Weight (in kg)"
```

4b.

```
maxvector <- max(lengths(splitdata))
maxvector
```

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

```
rowappend <- lapply(splitdata, function(x) c(x, rep(NA, maxvector - length(x))))
rowappend
```

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

```
## [1] "// Survey data. Created : 21 May 2013"
##
## [[2]]
## [1] "// Field 1: Gender"
##
## [[3]]
## [1] "// Field 2: Age (in years)"
##
## [[4]]
## [1] "// Field 3: Weight (in kg)"
```

4c.

```
un_data <- unlist(rowappend)

datamatrix <- matrix(un_data, ncol = 4, nrow = 3)
datamatrix
```

```
##      [,1]
## [1,] "// Survey data. Created : 21 May 2013"
## [2,] "// Field 1: Gender"
## [3,] "// Field 2: Age (in years)"
##      [,2]
## [1,] "// Field 3: Weight (in kg)"
## [2,] "// Survey data. Created : 21 May 2013"
## [3,] "// Field 1: Gender"
##      [,3]                                    [,4]
## [1,] "// Field 2: Age (in years)"            "// Field 1: Gender"
## [2,] "// Field 3: Weight (in kg)"            "// Field 2: Age (in years)"
## [3,] "// Survey data. Created : 21 May 2013" "// Field 3: Weight (in kg)"
```

4d.

```
field_names <- comments[2:4]

field_names1 <- gsub("//", "",field_names)
field_names1
```

```
## [1] " Field 1: Gender"         " Field 2: Age (in years)"
## [3] " Field 3: Weight (in kg)"
```

```
rownames(datamatrix) <- field_names1
print(datamatrix)
```

```
##                          [,1]
##  Field 1: Gender         "// Survey data. Created : 21 May 2013"
##  Field 2: Age (in years) "// Field 1: Gender"
##  Field 3: Weight (in kg) "// Field 2: Age (in years)"
##                          [,2]
##  Field 1: Gender         "// Field 3: Weight (in kg)"
##  Field 2: Age (in years) "// Survey data. Created : 21 May 2013"
##  Field 3: Weight (in kg) "// Field 1: Gender"
##                          [,3]
##  Field 1: Gender         "// Field 2: Age (in years)"
##  Field 2: Age (in years) "// Field 3: Weight (in kg)"
##  Field 3: Weight (in kg) "// Survey data. Created : 21 May 2013"
##                          [,4]
```

```
##  Field 1: Gender          "// Field 1: Gender"
##  Field 2: Age (in years) "// Field 2: Age (in years)"
##  Field 3: Weight (in kg) "// Field 3: Weight (in kg)"
```