Untitled

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```r
install.packages("tidyverse")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.3'
## (as 'lib' is unspecified)
```

#A. Load the built-in warpbreaks dataset.

```r
structure(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
```

#A1. Find out, in a single command, which columns of warpbreaks are either numeric or integer. What are the data types of each column?

```
warpbreak <- sapply(warpbreaks, function(x) typeof(x))
warpbreak
```

```
##    breaks      wool   tension
##  "double" "integer" "integer"
```

#A2. How many observations does it have?

```
nrow(warpbreaks)
```

```
## [1] 54
```

#A3. Is numeric a natural data type for the columns which are stored as such? Convert tointeger when necessary.

```
warpbreaks$breaks <- as.integer(warpbreaks$breaks)
```

#A4. Error messages in R sometimes report the underlying type of an object rather than theuser-level class. Derive from the following code and error message what theunderlying type. Explain what is the error all about. Do not just copy the error message that was displayed.

```
warpbreaks$breaks + 1
```

```
##  [1] 27 31 55 26 71 53 52 27 68 19 22 30 18 13 19 36 31 37 37 22 25 19 11 44 29
## [26] 16 27 28 15 30 20 30 32 42 21 45 43 27 20 17 40 29 22 40 30 21 22 25 18 14
## [51] 16 16 17 29
```

#B. Load the exampleFile.txt #B1. Read the complete file using readLines.

```
BexampleFile <- readLines("exampleFile.txt")
```

```
## Warning in readLines("exampleFile.txt"): incomplete final line found on
## 'exampleFile.txt'
```

```
print(BexampleFile)
```

```
## [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. Separate the vector of lines into a vector containing comments and a vector containing the data. Hint: use grepl.

```
Blines <- strsplit(BexampleFile, "\n")[[1]]

Bcomments <- Blines[grepl("^#", Blines)]
Bdata <- Blines[!grepl("^#", Blines)]
```

#B3. Extract the date from the first comment line and display on the screen "It was created data."

```
(date <- gsub(".*Created : ", "", Bcomments[1]))
```

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

```
paste0("It was created ", date)
```

```
## [1] "It was created NA"
```

#B4. Read the data into a matrix as follows. #Ba. Split the character vectors in the vector containing data lines by semicolon (;) using strsplit.