The "Live" Code of Lecture 2

```r
# Let's assemble a data.frame (=spreadsheet),
# This can be very big.
# This is the format we will read data into.

n = as.character(1:6)
semester = paste0(n, ". Semester")
semester
```

```
## [1] "1. Semester" "2. Semester" "3. Semester" "4. Semester" "5. Semester"
## [6] "6. Semester"
```

```r
# Number of courses
l = length(semester)
l
```

```
## [1] 6
```

```r
#generate random vector with zeros and ones

set.seed(1) # Make sure we all draw the same numbers
randZeroOne = rbinom(l, 1, 0.5)

nCourses = 6-randZeroOne
nCourses
```

```
## [1] 6 6 5 5 6 5
```

```r
# Level of difficulty
diffLevels = c("hard", "medium", "easy")

set.seed(2837482)
difficulty = sample(diffLevels, l, replace = T)
difficulty
```

```
## [1] "medium" "medium" "easy"   "medium" "easy"   "hard"
```
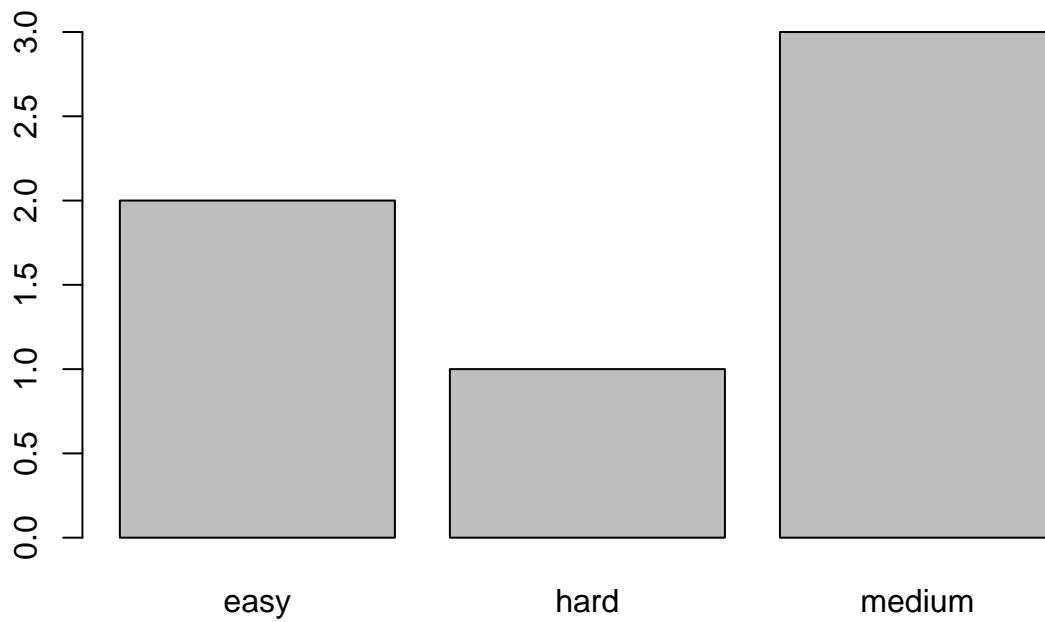
```r
class(difficulty)
```

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

```r
difficultyFac = as.factor(difficulty)
difficultyFac
```

```
## [1] medium medium easy   medium easy   hard
## Levels: easy hard medium
```

```
# plot(difficulty) # Does not yield any sensible results
plot(difficultyFac)
```



```
#number of students
nStud = rpois(1, 30)
nStud
```

```
## [1] 24 29 32 27 29 24
```

```
uni = rep("HSG", 1)

bachelorProgram = data.frame(
  semester, nCourses, difficultyFac,
  nStud, uni
)

#############################################

# Lists are another data type
L0 = list(bachelorProgram = bachelorProgram,
          difficulty = difficultyFac)

L0
```

```
## $bachelorProgram
```

```
##        semester nCourses difficultyFac nStud uni
## 1 1. Semester        6          medium    24 HSG
## 2 2. Semester        6          medium    29 HSG
## 3 3. Semester        5            easy    32 HSG
## 4 4. Semester        5          medium    27 HSG
## 5 5. Semester        6            easy    29 HSG
## 6 6. Semester        5            hard    24 HSG
##
## $difficulty
## [1] medium medium easy   medium easy   hard
## Levels: easy hard medium
```

```
L1 = list(L0, bachelorProgram, "chaos")
L1
```

```
## [[1]]
## [[1]]$bachelorProgram
##        semester nCourses difficultyFac nStud uni
## 1 1. Semester        6          medium    24 HSG
## 2 2. Semester        6          medium    29 HSG
## 3 3. Semester        5            easy    32 HSG
## 4 4. Semester        5          medium    27 HSG
## 5 5. Semester        6            easy    29 HSG
## 6 6. Semester        5            hard    24 HSG
##
## [[1]]$difficulty
## [1] medium medium easy   medium easy   hard
## Levels: easy hard medium
##
##
## [[2]]
##        semester nCourses difficultyFac nStud uni
## 1 1. Semester        6          medium    24 HSG
## 2 2. Semester        6          medium    29 HSG
## 3 3. Semester        5            easy    32 HSG
## 4 4. Semester        5          medium    27 HSG
## 5 5. Semester        6            easy    29 HSG
## 6 6. Semester        5            hard    24 HSG
##
## [[3]]
## [1] "chaos"
```