ASSIGNMENT XX

1. X. Name1 (uXXXXXX)
2. Y. Name2 (uXXXXXX)
3. Z. Name3 (uXXXXXX)

Theoretical Exercises

Solution Theoretical Exercise 1

a) ......
b) Math can be written like this $Y_i = X_i^\top \beta + \varepsilon_i$
c) or as an equation on its own line:

$$Y_i = X_i^\top \beta + \varepsilon_i.$$

Solution Theoretical Exercise 1

And so on and so forth....

Empirical Exercise

Solution Empirical Exercise 1

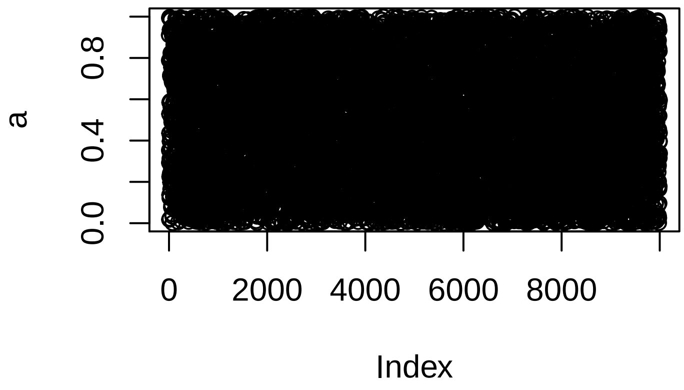
```
# NOTE: Use below line to install the package. Remove the line after,
#       as otherwise pdf generation won't work.
# install.packages("mvtnorm")
library("mvtnorm")
means = c(0,0)
VCOV = matrix(c(1,0,0,1),nrow=2,byrow=T)
n=2
X = rmvnorm(n,mean=means,sigma=VCOV)
X
```

```
##            [,1]     [,2]
## [1,] -0.7757123 1.897699
## [2,]  0.3800589 1.241083
```

The function `rmvnorm` draws `n` values from the multivariate distribution, with means given in `means` and the covariance matrix `sigma`.

Solution Empirical Exercise 2

```r
# Code block generating a plot
# The figure size and positioning can be adjusted in the options for the block
a = runif(10000)
plot(a)
```



And so on and so forth…

Some final tips

- Try producing the pdf already while writing. There can be errors, where no pdf file can be produced (e.g. if you don't close close a mathematical expression with `$`). If you produce the pdf after having written only a small part, and an error occurs, you know in which part the error is.
- Throughout, keep track of the variables you create, and their dimensions
- If part of your code produces an error, first try to narrow down where the error is coming from by running individual code blocks or lines one by one