

# How to make reports with knitr

In this course we are using the program [RStudio](#) which is an IDE for [R software](#). We recommend to install the newest version.

## Generating reports with knitr

It is extremely easy and convenient to use [knitr](#) package to generate reports in R, especially in RStudio. First you need to install the necessary libraries with the following commands.

```
install.packages("knitr")
install.packages("rmarkdown")
```

## R Markdown

The easiest way to write the report in R is to use Markdown. To start, click on the icon with the green plus sign on the left upper corner in RStudio and choose R Markdown (or go File -> New File -> R Markdown).

You can read more about Markdown from [here](#). For example [R Markdown Basics](#) gives a quick overview of the basic functionality.

**Note: You might have to install LaTeX separately to get knitting into PDF to work. We believe in your ability to install and use it, but if you struggle, let us know in Piazza and we will help you!**

Example

Let's try to add R code in between Markdown text. The easiest way is to add a code chunk that looks as follows:

```
```${r}
# code will be here
```
```

There are three ways to create a code chunk:

- Type it.
- Insert button in RStudio -> R.
- Ctrl + Alt + I.

## HTML output

In case you want to generate html files, you have to replace pdf\_document with html\_document in the header of the file (or choose Knit to HTML instead of Knit to PDF).

## Tips

If we don't want to display R code in the output for a specific code chunk, we can write **echo=FALSE**.

```
```${r echo=FALSE}
X <- 12
x
```
```

If we want to display the code, but don't want to run it, we can write **eval=FALSE**.

```
```${r eval=FALSE}
X <- 12
x
```
```

If we write **opts\_chunk\$set(echo = FALSE)** into a code chunk, it applies to all following code chunks (which means we won't have to retype it every time).

```
```${r}
library(knitr)
opts_chunk$set(echo = FALSE)
```
```

If we want to add a nicely formatted table to our file, we can use the **kable** command from knitr.

```
```${r}
library(knitr)
data = data.frame(sugu = c("M", "M", "N"),
                  vanus = c(20, 60, 30),
                  pikkus = c(180, 200, 150))
kable(data)
```
```