A Sample Rnw Document for use with RStudio

by

Jürgen Symanzik

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UTAH STATE UNIVERSITY

Logan, UT

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Contents

1 Creating an Rnw File

R **R** code can be included in an existing LaTeX document by changing the name of the file from myfilename.tex to myfilename.Rnw and opening the Rnw file in RStudio. Alternatively, use File → New File → R Sweave and fill in the template.

R code can be embedded in your LaTeX document in a very similar way to the way it is done in R Markdown. An R chunk starts with `<<>>=` and ends with `@`. Here is an example:

```
pi

## [1] 3.141593
```

and another:

```
x <- rnorm(5)
x

## [1]  1.6196031 -0.8706166 -0.2821132  1.0085708 -0.6077414
```

```
xbar <- mean(x)
xbar

## [1] 0.1735406
```

We can put options in the `<<>>` (here `<<echo=FALSE>>`):

```
## [1] 0.1735406
```

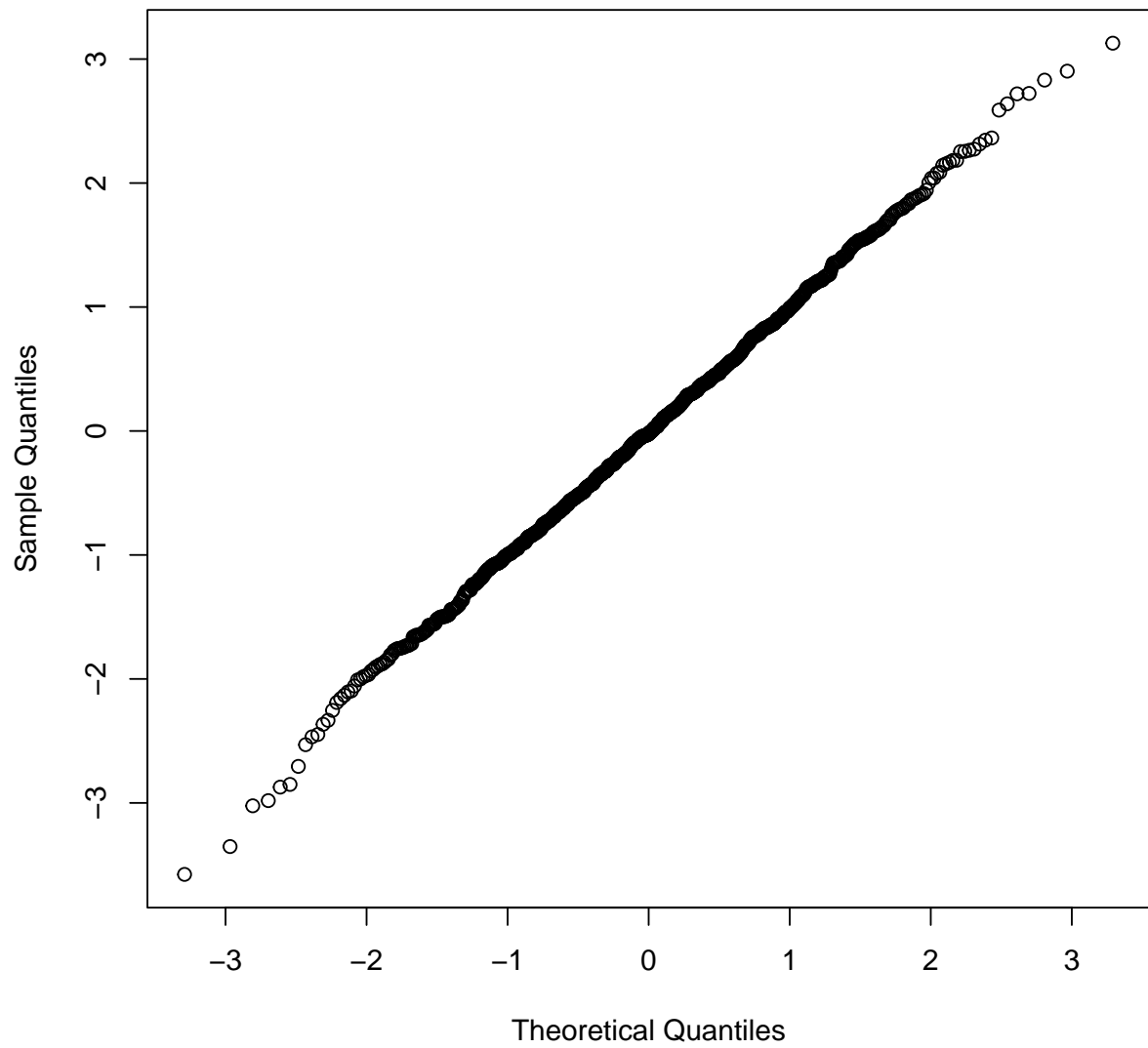and we can set options that will last for the rest of the document using `opts_chunk$set()`:

```
opts_chunk$set(prompt=TRUE)
```

```
> xbar <- mean(x)
> xbar
```

We can draw plots:

```
> qqnorm(rnorm(1000))
```

Normal Q−Q Plot

2 Multiple Code Chunks

We can create multiple code chunks and then only evaluate them later on (look at the Rnw source code to see what happens here):

```
> x <- 10
> y <- 20
> x + y

## [1] 30
```

3 Citations and References

By the way, LATEX helps you with references and citations via a bibtex (.bib) file. Once a reference has been entered into such a file, you can just cite it. Below are some examples:

- Here a citation "as noun": **Lamport85** is a main reference for LATEX.

- Here a citation in parentheses: Several sources for help with knitr exist **knitr2013**.

- You can combine multiple references: These references **CART,bagging,RF** likely will be used in some of Adele Cutler's courses.

Note that the reference list is created automatically! The file "agsm.bst" determines the appearance of the references. Most publishers and journals provide their own bst file so the references will appear immediately in the proper book or journal style.