`Rmarkup` – a very simple tool for literate programming

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The `Rmarkup` function in the **doBy** package does the following: Descriptive text and *R* code is put into a source document. The target document created by weaving will contain the descriptive text and program code together with graphics and results from the computations.

The format of the source document is a plain text file containing *R* and descriptive text (in lines starting with ##). `Rmarkup` allows some markup facilities for the text. These are inspired by `txt2tags` markups (see `http://txt2tags.org/`). For example, **boldface**; *italics*; underline and `monospace` is produced with `**`boldface`**`; `//`italics`//`; `__`underline`__` and `&&`monospace`&&`. Moreover, different levels of headings are produced with `= Title level 1 =`; `== Title level 2==`; and so on. The target document in an HTML document containing the descriptive text (with possible markups), and program code together with graphics and results from the computations. `Rmarkup` is implemented by using the `RweaveHTML` driver in the **R2HTML**, [2].

A natural question is what `Rmarkup` offers that can not be accomplished using tools like `Sweave` [3] and **odfWeave** [1]. In terms of functionality, `Rmarkup` is nowhere nearly as advanced as `Sweave` and **odfWeave**. In terms of simplicity of installation and use, `Rmarkup` has advantages: `Rmarkup` grew out of teaching *R* to graduate students and others in the life sciences, e.g. students with a background in agronomy, biology, food science, veterinary science etc. Such students typically use Microsoft Office in their work and such students are generally hesitant to having to install to much software on their computer. We have found that requesting the students to install *R* itself and possibly also a suitable editor (we have recommended *Notepad++* for Windows users) is about as much as we can ask of the students. (Needless to say that it is pointless to ask such students to learn LaTeX.) `Rmarkup` provides a tool for such *R* users.

We have found an additional value of `Rmarkup`: It is common to have a plain text file as a sandbox for playing around with e.g. data manipulation tasks. One may subsequently choose to form a LaTeXfile with these data manipulation steps and a textual description of steps using `Sweave`. In practice this means that one has a script file and a LaTeXfile describing essentially the same tasks, and hence there is a risk of things being out of sync. Using `Rmarkup` in connection with e.g. data manipulation tasks, there is only a simple script file in play and it is a manageable task to add useful comments and some simple text markup to such a file. This means that the task of documenting the work (in particular the more tedious parts of the work) is more likely to be done.

References

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