Validation Procedure of QuantLets according to the Styleguide

The proposed validation procedure should be followed sequentially. All steps are illustrated by examples included in the styleguide.

Instructions

1. **Check all items of MetaInfo** for order, completeness and correctness [optional items are written in *italic*] - Click to see example

    1.1. <u>Name of QuantLet</u> (e.g. SFE_DAXlogreturns)

    1.2. <u>Published in</u> Book/ Paper

    1.3. <u>Description</u> - at least 10 words; should begin with the verb, e.g. "plots the time series..."

    1.4. <u>Keywords</u> (at least 5 words; the more the merrier) - Choose from list of keywords

    1.5. *See also* - list related Quantlets

    1.6. <u>Author</u> - check at the list of authors on the website [if new, than write [New] in this field]

    1.7. <u>Submitted</u>

    1.8. <u>Datafile</u>

    1.9. *Input (optional)*

    1.10. *Output (optional)*

    1.11. <u>Example</u> - check whether there is appropriate info on the website

2. **Check Code** (Align QuantLet Code to Style Guide standards)

    2.1. Check wether the code runs properly

    2.2. Check wether datafile is appropriate and available

    2.3. Check wether the descriptive comments are appropriate

    2.4. Check wether plots\pictures are appropriate to be uploaded on the website

    2.5. Format the code with the package FormatR

        2.5.1. Install/ load package FormatR and execute tidy_source command

        2.5.2. Check whether all lines of code are still written properly

        2.5.3. Check that the code still works properly

    2.6. Delete unnecessary empty lines (1-2 mostly, max. 4)

    2.7. Change all "<-" with "="

    2.8. Align all subsequent assignments by "="

    2.9. Check indentation

Examples of validated Q's

- http://quantnet.wiwi.hu-berlin.de/index.php?p=SFE_hq

- http://quantnet.wiwi.hu-berlin.de/index.php?p=SFS_hq

Styleguide

0.1 Complete and ordered MetaInfo-Header

Your provided information is critical for the availability, presence and relevance of your submitted Quantlet. These information will be used for clustering, filtering and recommendation engines. With accurate and dense information you can help other users to find your QuantLet.

```
 1  # ————————————————————————————
 2  # Name of QuantLet: SFEustb
 3  # ————————————————————————————
 4  # Published in: Statistics of Financial Markets
 5  # ————————————————————————————
 6  # Description: Shows a 3-month U.S. Treasury bill daily
 7  #       yield from 1998 to 2008 as an approximation of
 8  #       the short rate.
 9  # ————————————————————————————
10  # Keywords: approximation, asset, data visualization,
11  #       financial, graphical representation, interest-
12  #       rate, plot, short-rate, time-series,
13  #       visualization, yield
14  # ————————————————————————————
15  # See also: SFECIRmle, SFEcir, SFEscomCIR
16  # ————————————————————————————
17  # Author: Li Sun
18  # ————————————————————————————
19  # Submitted: Thu, July 16 2015 by quantomas
20  # ————————————————————————————
21  # Datafile: yield_US3month9808.txt
22  # ————————————————————————————
23  # Input: -
24  # ————————————————————————————
25  # Output: -
26  # ————————————————————————————
27  # Example: Plot of 3-month U.S. Treasury bill daily
28  #       yield from 1998 to 2008.
29  # ————————————————————————————
```

0.2 Use FormatR to clean up your code

You can easily preprocess your code with the FormatR package. Below is an example of how this is done.

```
1  # Cleaning up the source code in an R script file
2  # "input.R",
3  # Indentation is set to two space characters. Maximum
4  # line width is 80 characters.
5  # The formatted code is written into a new script file
6  # "output.R"
7
8  tidy_source(source = "input.R", indent = 2, width.cutoff = 80,
9  file = "output.R")
10
11  # similar to the previous example, but using the
12  # clipboard instead of an input file
13
14  tidy_source(indent = 2, width.cutoff = 80, file = "output.R")
15
16  # when omitting function parameters the defaults
17  # indent = 4 and width.cutoff = 80 are being used.
18  # For simplicity, we recommend these for use on Quantnet.
19
20  tidy_source(file = "output.R")
```

More details of the package FormatR are available in the package documentation

0.3 Change all "<-" with "="

A QuantNet specific style requirement concerns the assignment operator. All "<-" should be replaced with "=" like shown below.

```
1  #BAD
2  foo <- 5.0
3  bar <- function(x) {
4          return x^2
5  }
6
7  #GOOD
8  foo = 5.0
9  bar = function(x) {
10          return x^2
11  }
```

0.4 Align assignments in subsequent lines by "="

```
1  foo     = 5.0
2  foobar  = 7.0
3  bar     = 8.0
```

0.5 Set four space characters or a single tab per indentation level

```
1  while (i <n){
2      i = i + 1
3  }
```