Introduction to the AUTtheme for R Markdown with Beamer

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Overview

Outline

How to load this package

Load this package from github using the `remotes` package

In R Studio

- File/New File/R Markdown/From Template
- Select AUTBeamer

This will create a new directory containing the required files to run the template

- bgImages (folder containing images)
- AUTtheme.sty
- header.tex
- untitled.Rmd

Compiling this demo file

To compile this demo file, this file needs to be located in the same directory as the `bgImages` folder and the `AUTtheme.sty` file. These files are not provided in the demo folder to avoid duplication.

Compiling with AUTTheme

`lualatex` is recommended.

Comparison to Beamer version

The Rmd version of this template does not yet have all the functionality of the beamer version, e.g. customised frame environments such as sectionpages.

Outline

Frame Sizes

The template can be used to create 16×9 or 4×3 slides by modifying the YAML header.

The resolution of the background images get updated automatically.

- To create 16×9 slides use `classoption: "aspectratio=169"`
- To create 4×3 slides use `classoption: "aspectratio=43"`

Customisation

The file `header.tex` contains the LaTeX commands used at the start of the document.

To use the AUTtheme package, `header.tex` needs to contain, a command like:

- `\usepackage{AUTtheme}` or
- `\usepackage[dct]{AUTtheme}`

The `header.tex` file can also be used to load other packages or customise the Beamer package in other ways, e.g.

`\AtBeginSection{}`

or

`usepackage{lipsum}`

Outlines

Sections are defined by #, subsections by ## and slides by ###. The `slide_level` can be defined in the YAML header.

An outline of all sections can be created by adding:

`\tableofcontents[hideallsubsections]`

Overview - Example 1

Usage

Frames

Common Frame Features and Layouts

LaTeX commands

Using References

LaTeX Commands

References

Overview - Example 2

Overview - Example 3

\AtBeginSection

In `AUTtheme.sty` the default is that each section starts:

- with a title slide containing the section name
- an outline slide with the following specification

```
\tableofcontents[
    currentsubsection,
    sectionstyle=show/shaded,
    subsectionstyle=show/shaded/hide,
  ]
```

Customising \AtBeginSection

This can be customised in `header.tex`. For example, as shown in the header file for this demo

```
\AtBeginSection{
\begin{sectionframe}
\frametitle{Outline}
\tableofcontents[
        currentsection,
        sectionstyle=show/shaded,
        subsectionstyle=show/show/hide,
    ]
\end{sectionframe}}
```

Outline

Unordered list

- Bullet 1
  - sub Bullet
    - sub of sub Bullet
  - sub Bullet
- Bullet 2
- Bullet 3

Ordered list

1. Item 1
   - Item 1a
   - Item 1b
2. Item 2
3. Item 3
   - Item 3a
   - Item 3b

List with steps showing

1. Item 1

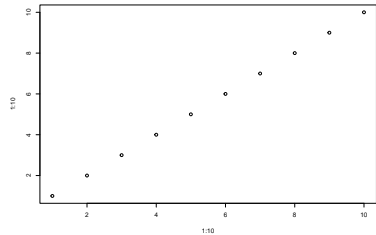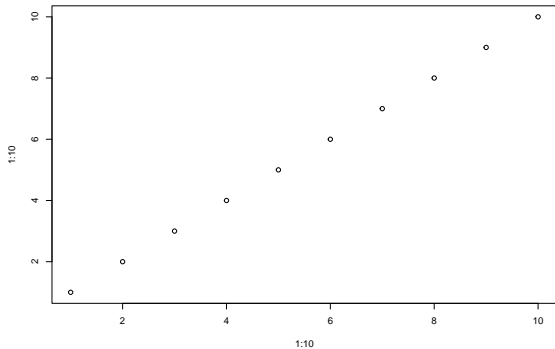# List with steps showing

1. Item 1
2. Item 2

List with steps showing

1. Item 1
2. Item 2
3. Item 3

Columns

Column 1

Column 2

Tables

Assessment	Weighting	Hand out	Hand in
Quizzes	15%	Weekly	Weekly
Assignment	25%	Week 6	Week 8
Project	60%	Week 4	Week 12
Total	100%		

Outline

Overlays

This appears on all slides.

Overlays

This appears on all slides.   **This only appears on slide 2**

Outline

Footnotes

There is a really good book about geometric processes. [1] There is also a really good book about stochastic processes. [2]

[1] Lam, Yeh. The Geometric Process and Its Applications. World Scientific, Hackensack, NJ, 2007.
[2] Ross, Sheldon. Stochastic Processes, 1998.

References

Buehler et al. (2019) discusses the importance of Deep Hedging. Many authors have applied machine learning (Teichmann 2019). Multiple authors can be separated with semicolon (Buehler et al. 2019; Teichmann 2019).

- `@buehler2019deep` gives in text references
- `[@buehler2019deep]` gives the reference in parentheses
- `[@buehler2019deep; @teichmann2019machine]` multiple authors

Outline

Protecting LaTeX commands

The following environment can be used to protect raw latex code (see source)

A   B

A   B

Example - Blocks

For more information see
https://bookdown.org/yihui/rmarkdown-cookbook/custom-blocks.html

This paragraph will be centered on the page, and its width is 50% of the width of its parent element.

Outline

References

Buehler, Hans, Lukas Gonon, Josef Teichmann, and Ben Wood. 2019. "Deep Hedging." *Quantitative Finance* 19 (8): 1271–91.

Teichmann, Josef. 2019. "Machine Learning in Finance." *URL: Https://People. Math. Ethz. Ch/Jteichma/Index. Php.*