Day 2, part 1. Customisation and Cross-referencing

Digital Skills for Research

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Contents

1   Customisation and own commands

Usually, there are many ways to skin the cat.

Levels of customisation: class files, style files, packages that provide additional commands and environments, own commands and environments + advanced `xparse` and `etoolbox` packages for writing own packages

- `\newcommand`: defines a new command; it is a LaTeX wrapper on top of TeX primitive (`\def`)

  - Adding a space after LaTeX default logo command:
    `\newcommand{\myLaTeX}{\LaTeX~}`
  - `\newenvironment{hello}[1][world]{\noindent Hello #1, }{Bye now!\\}`

- `\renewcommand`: redefines an existing command

  - `\renewcommand{\harvardurl}{URL: \url}`
  - `\renewcommand{\refname}{Selected Publications 2017-2021}`
  - `\renewcommand{\figurename}{Fig.}`
  - (re)new(ed) commands/environments can have [optional] and {mandatory} arguments: e.g.
    `\newcommand{\boxedfig}[1]{...}`

- modify the default parameters (a) globally for the whole document or (b) locally for parts of it: e.g.

  - put `\setlength\parindent{0pt}` in preamble to cancel all indentation (or `\noindent` for local effect)
  - `\captionsetup{labelsep=period}` to use a dot (not colon) after Fig(ure) 1 in captions
  - `\thispagestyle{empty}` on any page to lose the page number (see page 3 in this document)
  - adding space, changing fonts and text alignment locally with existing commands:
    `One {\Large{word}} appears large`

Here are a few simple examples
Notice and explore the numbering of the examples linked to Sections

Example 1.1. mytitle
This is some text with the default LaTeXcommand.
And this sentence calls the modified LaTeX command.
(Notice the added space after the logo.)

Example 1.2. mytitle
Two calls of the hello environment:

Fig. 1: Two lines plot in a box

```
\begin{hello}
nice to meet you.
\end{hello}

\begin{hello}[Bob]
glad you could make it.
\end{hello}
```

Output:
Hello world, nice to meet you. Bye now!
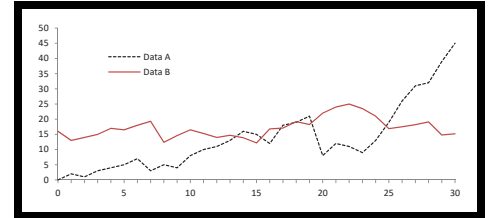Hello Bob, glad you could make it. Bye now!

Example 1.3. mytitle

```
\renewcommand*{\figurename}{Fig.}

\newcommand{\boxedfig}[1]{%
\setlength{\fboxsep}{5pt}%
\setlength{\fboxrule}{3pt}%
\fbox{\includegraphics[width=\linewidth]{#1}}%
}
```

Called as:

```
\begin{wrapfigure}{r}{0.3333\linewidth}
        \boxedfig{lines.eps}
        \caption{Two lines plot in a box}
        \label{fig:logo}
\end{wrapfigure}
```

Example 1.4. mytitle
```
\newcommand{\hi}[2][world]{\noindent Hello #1 and #2}
```
called as \hi[Marie][Stephen] and as \hi{Stephen}

Hello Marie and Stephen
Hello world and Stephen

NB! Asterisks in commands definitions and per cent signs at the
end of lines are safety checks to prevent arguments accidentally
containing blank lines or \par.

NB! Renewing commands that have @ in their name requires:

```
\makeatletter
\renewcommand*{\verbatim@font}{March 11, \ttfamily\footnotesize}
\makeatother
```

This sort of redefinition cannot be used in .sty files.

2 Internal and external links

The main package to allow cross-referencing is `\usepackage{hyperref}`.
Types of links:

- Internal links (inc. to individual words): `\label{sec:links} ... \ref{sec:links}`

  In Section 2 we used . . .

- Links to local files:
  `\href{run:./pics/Pym_2020_translation_solutions_ES>EN.pdf}{Pym's paper (2020)}`

  See Pym's paper (2020)

- Web addresses: `\href{https://en.wikipedia.org/wiki/LaTeX}{Wiki on Latex}`
  and `\url{https://en.wikipedia.org/wiki/LaTeX}`

  This is what Wikipedia says about Latex: Wiki on Latex or with visible address https://en.
  wikipedia.org/wiki/LaTeX

Custom colours for each type of links (seems to be a paper-friendly solution)

```
\hypersetup{
        colorlinks=true ,
        linkcolor=blue ,
        filecolor=magenta ,
        urlcolor=cyan ,
}
```

To refer back to a particular word/phrase in the document, use:

```
\hypertarget{wd:cats}{where_to_return}  ...
 \hyperlink{wd:cats}{word_to_make_clickable}
```

In Section 1, we talked about some cats.

Hide all the clickables (good for printing on paper, but not for an e-document):
`\usepackage[hidelinks]{hyperref}`