LaTeX Last Lecture

Christian Blanco and Brandon Eltiste

UC Berkeley

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Outline

Stochastic Integration

$$\int_b^a f(x) = F(a) - F(b) \qquad (1)$$

$$\int_0^t H\, dB = \lim_{n\to\infty} \sum_{[t_{i-1}, t_i] \in \pi_n} H_{t_{i-1}}(B_{t_i} - B_{t_{i-1}}). \qquad (2)$$

```
\begin{equation}\label{calculus}
\int_b^a f(x) = F(a) - F(b)
\end{eqnarray}
```

Reference equation (1).

```
Reference equation (\ref{calculus}).
```

Defining your own environment
Here we only introduce modifying / customizing a pre-existing environment.

```
\newenvironment{testing}
{\begin{test}}
{\end{test}}
```

Example 1:

```
\newenvironment{demo}
{\begin{proof}   \bf \color{green} }
{\end{proof}}
```

Now you can begin a new environment with \begin{demo}.

Example 2: (by George Grätzer)

```
\newtheorem*{namedtheorem}{\theoremname}
\newcommand{\theoremname}{testing}
\newenvironment{named}[1]{
\renewcommand{\theoremname}{#1}
\begin{namedtheorem}}
{\end{namedtheorem}}
```

note: use **amsart** as your document class (this is to avoid calling out the package)

It is good practice to declare new environments and new commands at the preamble.

This is to avoid sending multiple files attached with your tex file.

As much as possible, it is good practice to just have the tex file and not have a separate customized style (for sharing purposes).

A recap on a few details on Bibtex: Rules on author names:

1. "Christian C. Blanco" or "Blanco, Christian C.", comma separates the family name from the given names.

2. More than one author: author= "Christian Blanco and Brandon Eltiste and Superman",

3. The family name of Miguel Lopez Fernandez is Lopez Fernandez, so type it as "Lopez Fernandez, Miguel". This informs Bibtex that Lopez is not a middle name.

4. Type Adam Smith, Jr. as "Smith, Jr., Adam".

Entry type   ARTICLE

Required fields   author, title, journal, year, pages

Optional fields   volume, number, language, note

BOOK

Required fields   author (or editor), title, publisher, year

Optional fields   edition, series, volume, number, address, month, language, note

INPROCEEDINGS

Required fields   author, title, booktitle, year

Optional fields   address, editor, series, volume, number, organization, publisher, month, note, pages, language

Remember the example last week with the author: .... {Hilbert} ...?

It turns out that the { } are used to preserve capitalization (overrides the bib style).

Why such a big issue? It turns out that different bibstyle has different capitalizations for the reference.

Examples from George Grätzer:

[1] Soo-Key Foo. *Lattice Constructions*. PhD thesis, University of Winnebago, Winnebago, MN, December 1990.

[2] George A. Menuhin. *Universal Algebra*. D. van Nostrand, Princeton, 1968.

[3] Ernest T. Moynahan. Ideals and congruence relations in lattices. II. *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.*, 7:417–434, 1957.

[4] Ernest T. Moynahan. On a problem of M. Stone. *Acta Math. Acad. Sci. Hungar.*, 8:455–460, 1957.

[5] Ferenc R. Richardson. *General Lattice Theory*. Mir, Moscow, expanded and revised edition, 1982.

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4. ———, *On a problem of M. Stone*, Acta Math. Acad. Sci. Hungar. **8** (1957), 455–460.

5. Ferenc R. Richardson, *General lattice theory*, expanded and revised ed., Mir, Moscow, 1982 (Russian).

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More examples from George Grätzer:

[1] F. R. Richardson, *General Lattice Theory*. Moscow: Mir, expanded and revised ed., 1982.
[2] G. A. Menuhin, *Universal Algebra*. Princeton: D. van Nostrand, 1968.
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[4] S.-K. Foo, *Lattice Constructions*. PhD thesis, University of Winnebago, Winnebago, MN, Dec. 1990.
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[1] S.-K. Foo, *Lattice Constructions*, PhD thesis, University of Winnebago, Winnebago, MN, Dec. 1990.
[2] G. A. Menuhin, *Universal Algebra*, D. van Nostrand, Princeton, 1968.
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[5] F. R. Richardson, *General Lattice Theory*, Mir, Moscow, expanded and revised ed., 1982.

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You can have a .tex document that's solely a chapter and you can combine multiple .tex files.

I wont dwell on this too much, but I'll show an example, which is available on the website (this is just to show that this function exists for tex).

Suppose you have different pdf files and you want to combine both of them without having to fiddle around with the source code too much -this happens more in collaboration.

```
\usepackage{pdfpages}

\includepdf[pages=2]{document1.pdf}
\includepdf[pages=3]{document2.pdf}
```

Flashcard example by Brandon

Instructions:

Part 1 (10 points)

- customize an environment
- write out two equations and reference them

Part 2 (10 points)

create a one page flash card

We recommend that you check out the errors chapter from the reader. the error log is helpful in finding where the error is coming from.

THANK YOU FOR TAKING THIS DECAL!
HAVE A GREAT SUMMER!