Math 291: Lecture 2

Presented by Prof. James for Prof. Fagerstrom

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Outline

The Preamble

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  Note: This can be one command with a list, as shown, or separate commands for each package.
- Next there is (often) a set of commands that define the page layout.
- Finally, one can use the command

  `\newcommand{\<name>}{<definition>}`

  to create a shorter name for a frequently used command.

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But there are others...

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- landscape (set the page layout to landscape rather than the standard page orientation)
- and many others...

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- Open a blank document using TeXnicCenter and type

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- Next, add the begin and end document commands, and "This is my second LaTeX document." as the body of the document.
- Save your document somewhere convenient. Compile it using the LaTeX⇒PS⇒PDF build profile and open the resulting .pdf file.

Modifying Our Example

- Change the options to 10pt and a5paper. It should read:

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- Recompile and view your document.

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- Then change the options back to 12pt and letterpaper and compile and view again.

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- Recompile and view your document.
- Then change the options back to 12pt and letterpaper and compile and view again.
- Finally, add the two column option. It should read:

  ```
  \documentclass[12pt,letterpaper,twocolumn]{article}
  ```

  Then compile and view it (you should close your previous .pdf file before recompiling).
- Note that you only see text in the first of the two columns because the left column has not been filled yet.

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- Compile your document. TeXnicCenter should be set up so that it will find and install any missing packages. Let me know if you have trouble compiling. It might take a while for these packages to install... But once a package is loaded once, it stays loaded, so it only takes a while the first time it is built (fortunately).
- These packages give you access to additional fonts, symbols, or other additional commands.

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- Scroll down to your favorite US based repository and select it (probably a US based one).
- To practice adding a package by hand, type "tikZ" as either a name or keyword and click "Filter".
- Click on a package that looks interesting. Then click the "+" button and "OK". The package should then install itself.

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- Close the Package Manager.

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  - `\textwidth`
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  - `\oddsidemargin`
  - `\evensidemargin`
- The standard syntax used is:

  ```
  \setlength{\textwidth}{7.5in}
  ```

  where you provide a measurement in inches, centimeters, millimeters, etc.

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- Take some time to play with these numbers and see what impact changing these has on your practice document.

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  - `\textsl{MATH} is Cool.`
  - `\textsf{MATH} is Cool.`
  - `$\mathbb{MATH}$ is Cool.`
  - `$\mathcal{MATH}$ is Cool.`
  - `\textcolor{red}{MATH} is Cool.`
  - `\textcolor{red}{M}\textcolor{yellow}{A}\textcolor{green}{T}\textcolor{blue}{H} is Cool.`
- There are many other fonts available.

Fun With Symbols Part 1

- TeXnicCenter has several built in symbol menus. You access them by clicking on the "Math" tab on the topline menu and scrolling down to the submenu that has the symbol that you want.
- In your practice document, try each of the following:

Fun With Symbols Part 1

- TeXnicCenter has several built in symbol menus. You access them by clicking on the "Math" tab on the topline menu and scrolling down to the submenu that has the symbol that you want.
- In your practice document, try each of the following:
  - Use the "Greek Letters" menu to help you create the expression: $\alpha \geq \gamma$
  - Use the "Binary Operators" menu to help you create the expression: $A \oplus B = C \times D$
  - Use the "Set" menu to help you create the expression: $(A \cap B) \cup C \subseteq D$
  - Use the "Arrows" menu to help you create the expression: 100% $\Rightarrow$ \$ $\uparrow$ Note: To get the reserved symbols of % and \$, precede them with a $\backslash$.
  - Use the "Several Symbols" and "Boundaries" menus to help you create the expression: $|\Re| = \aleph_1$?

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  - Open the "Tools" Menu.
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  - In the window that opens, click on the "Toolbars" tab.
  - Check the boxes of the symbol family that you want to add to the display.
  - As an example, add the "Arrows" tab. Then click on it and drag it to a convenient location in the top menu bar.

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  - Check the boxes of the symbol family that you want to add to the display.
  - As an example, add the "Arrows" tab. Then click on it and drag it to a convenient location in the top menu bar.
- You can find a *fairly* comprehensive list of symbols available in LaTeX by going to the following http://artofproblemsolving.com/wiki/index.php?title=LaTeX:Symbols.
- For a more comprehensive list, see the following http://tug.ctan.org/info/symbols/comprehensive/symbols-a4.pdf.
- Note that to use many of the symbols listed, you will have to call the appropriate package at the beginning of your document.