Lecture 5 - Graphics and PStricks

LaTeX for Math and Science
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Spring 2011 Lecture 5

Outline

Floats

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Wops, wrong kind of float
Floats in LaTeX are objects where you can't do a force break.
Examples of floats are:

1. Graphics
2. Tables
3. Graphs
4. Custom Floats

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Graphics

LaTeX can support various image file types

- Postscript images (.eps extension): used for dvips compilers
- pdflatex compiler can only handle PDF, PNG, JPEG, GIF

Graphics

Package: graphicx

additional note on graphics:

```
\DeclareGraphicsExtensions{.pdf, .png, .jpg}
```

An easy way to call on images is to save it in the same directory where your .tex file is, but you can still call on other images in different directories by:

```
\graphicspath{{c:\why\doyouwant\tomakeyour\lifeharder}}
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- just save it on the same directory for now...

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Stochasitc Monkey Example

Please download lecture5images.zip under Lectures on class website.

* lets explore a new documentclass called 'paper'
* just pop up the image on your PDF

Graphics Attributes

```
\includegraphics[attribute]{imagename}
```

Attribute	Description
width	mm, cm, in, pixels
height	mm, cm, in, pixels
keepaspectratio	true or false
scale	$\alpha \in (0, \infty)$
angle	in degrees
trim	l b r t lengths will be cut from the image

Note: 'cropping' (trim command) only works with clip=on

Borders

```
\setlength\fboxsep{.4pt}
\setlength\fboxrule{0.5pt}
\fbox{\includegraphics{imagename}}
```

Float Attributes

```
\begin{figure}[attribute]
\begin{table}[attribute]
```

Attribute	Description
h	Immediately places float relative to order of your code
t	top of the page
b	bottom of the page

Figures Attributes

With figures you can add a caption to your image.
The figure environment also allows you to crossreference
example: try out `\listoffigures`

Text Wrapping

Text, text, text

```
\usepackage{wrapfig}

\begin{wrapfigure}{r}{5cm}
\centering
\includegraphics[height=80mm]{groupmonkey.jpg}
\caption{Monkeys arrive as a Poisson
process with some intensity $\lambda$}

\end{wrapfigure}
```

text, text, text

Tables as floats

Ages ago (about three weeks), we saw the tabular environment. Now what's the difference between table environment and tabular environment?

Table environment allows tables to act as floats, add reference and captions.

Now lets try example: try out `\listoftables`

Recreate the stochasticmonkey.pdf

hint on HW: for the last figure use subfloats
there is a bonus question:
HINT: use `\begin{picture}`