Floating Bodies in LaTeX

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What are Floating Bodies?

- *Figures* are Floating Bodies.
- *Pictures* drawn in LaTeX are also Floating Bodies.
- *Tables* are not always Floating Bodies.
- Anything can be a Floating Body if you want it to be.

LaTeX treats Floating Bodies differently than text.

- Floating Bodies are often external files
- They are not broken accross page breaks.
- They are inextricably connected to their captions.
- TeX keeps a running list of Tables and Figures.
- Only TeX has direct control of where they are placed.

Creating Floating Bodies

Tabular Environment
-Table Specifications
-Tables as Floating Bodies

Figure Environment
-Including Figures
-File Formats
-The Graphicx package

Picture Environment
-Drawing pictures within LaTeX

The Tabular Environment

Tables are made in an environment all their own.

```
\begin[pos]{tabular}{table specifications}
\end{tabular}
```

To float a table:

```
\begin{table}
\begin[pos]{tabular}{table specifications}
\end{tabular}
\end{table}
```

The Figure Environment

In order to use `\includegraphics{}` you must first call the graphicx package:

```
\usepackage[dvips]{graphicx}
```

The figure environment is a floating body environment.

```
\begin[pos]{figure}{figure specifications}
\includegraphics{filename}
\end{figure}
```

The Picture Environment

```
\begin{picture}(x,y)(x_0, y_0)
.
.
.
\put(x,y){object}
.
.
.
\end{picture}
```

The Placement of Floating Bodies

- LaTeX is egomaniacal
  - TeX feels it knows what looks best.
  - TeX will ignore your commands if they suggest something else.

Recall the position specifier [*pos*]

`\begin[`*pos*`]{figure}{figure specifications}...`

pos= h, hb, ht, t, p, b, !, htbp!...

h = here
t = top
b = bottom
p = independent page
! = even if it looks bad

Boxes

Boxes for Paragraphs:

`\parbox[pos]{width}{`*...text..*`}`

Boxes for anything:

`\begin{minipage}[pos]{width}`

...text, *figures*, *tables...*

`\end{minipage}`

Boxes Cont'd

The position specifier for boxes gives slightly more control than before, since TEX does not treat them quite like floating bodies.

Boxes are glued to the text with 'special glue, which is elastic'.

pos can be t, c, or b, and refers to the relation of the box to the surrounding text.

Also, the width specifier allows graphs and images to be horizontally adjacent to each other.

\clearpage

\FloatBarrier

fin.