

A QUICK INTRODUCTION TO L^AT_EX AT LAKEHEAD

ADAM VAN TUYL

1. INTRODUCTION

The purpose of this short note is to get students using L^AT_EX, a typesetting program used in mathematics, in the shortest amount of time. This is not meant to be comprehensive. There are many other sources (both on the web and in book format) that do this. Probably the best way to learn how to use L^AT_EX is to look at a couple of examples, and to sit down and try using the system yourself.

2. WHERE TO GET IT?

The first thing you need to do is download the program. Start at this webpage:

<http://www.latex-project.org/ftp.html>

Pick the version corresponding to your operating system. Since most of you will probably be using Windows, note that it will take a long time to download since its about 750MB (about .75GB). You may want to do it at school at a fast connection.

3. WHAT IS L^AT_EX ?

L^AT_EX is a typesetting program that is very useful for doing math. Writing equations in something like Word is very difficult, but quite easy to do in L^AT_EX. The quickest way to learn it is to work from an example, or try one of the many tutorials on line.

Here's the general idea. You open a new file with a text editor (this will depend upon what system you are using). In this file, you enter the L^AT_EX commands. Note, when naming a L^AT_EX document, the name of file should end with `.tex`. For example, let's make a file called `sample.tex`. In this file, I will put the following commands:

```
\documentclass{amsart}
```

```
\begin{document}
```

```
Hello World! This is a \LaTeX\ document.
```

```
Here is some math:
```

```
\[3^2 + 1 = 10 \]
```

```

\[\frac{\pi^6}{x^7+1}\]

\end{docuemnt}

```

You then need to compile the file; what \LaTeX does is take this information, and uses to build a file. Code like

```
\frac{\pi^6}{x^7+1}
```

tells the program to make a fraction, where the numerator is π^6 , and the denominator is $x^7 + 1$. How you compile the file will depend upon your system.

When you compile the file, you should see that your directory contains some new files, most notably, `sample.aux`, `sample.log`, and `sample.dvi`. To view the `.dvi` file, you need a program like `ghostview` (which is included).

When you open this program, you should see something like this.

Hello World! This is a \LaTeX document.

Here is some math:

$$3^2 + 1 = 10$$

$$\frac{\pi^6}{x^7 + 1}$$

Once you are done making your document, it is possible to turn your `.dvi` file into a `.pdf` file, which can then be easily sent to other people or a printer.

You are now ready to start \LaTeX yourself. Once you familiarize yourself with the system for your operating system, you should be ready to go! More examples will be provided in class!