How to use LaTeX

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- A document preperation system
- A way to write good-looking papers in your favorite text editor
- A turing complete programming language

- It is the best way to typeset math
- Conferneces and journals (and upper level classes) require you to submit in LaTeX
- You can write papers and presnetations in your favorite text editor

How to write a simple document

Start with the documentclass tag

`\documentclass[12pt]{article}`

Next, write your header (this isn't required)

```
\title{My Awesome Document}
\author{Andrew McGlathery}
\date{\today}
```

Finally, write the content of your document

```
\begin{document}
  \maketitle
  Cool stuff goes here
\end{document}
```

```latex
\documentclass[12pt]{article}

\title{My Awesome Document}
\author{Andrew McGlathery}
\date{\today}

\begin{document}
  \maketitle
  Cool stuff goes here
\end{document}
```

My Awesome Document

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Cool stuff goes here[1]

References

[1] Hanna M Wallach. Topic modeling: beyond bag-of-words. In *Proceedings of the 23rd international conference on Machine learning*, pages 977–984. ACM, 2006.

1

- All inline math is inside of $ ... $
- All math blocks are inside of $$ ... $$

```
Newton's second law is $F=ma$
```

Becomes
Newton's second law is $F = ma$

```
$$
\frac{\frac{y^\alpha}{x_1}+\frac{z_1}{y_2}}{y-z}
$$
```

Becomes

$$
\frac{\frac{y^\alpha}{x_1} + \frac{z_1}{y_2}}{y - z}
$$

```
$$
\alpha, \beta, \gamma, \Gamma,
\pi, \Pi, \phi, \varphi, \Phi
$$
```

$$\alpha, \beta, \gamma, \Gamma, \pi, \Pi, \phi, \varphi, \Phi$$

Other really cool things in LaTeX or other things I could talk about

- Bibtex
- GNUplot