

# Markdown and Pandoc

Writing at the Command Line

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# Why not just use PowerPoint/Word?

- ▶ Not great for anything but text/image-only documents
  - ▶ You really shouldn't be typesetting your 15-151 homework in Word
- ▶ Heavyweight
- ▶ Can't use your favorite text editor
- ▶ Proprietary & closed source



# I guess we could use LaTeX...

- ▶ Fantastic for typesetting math
- ▶ Hard to learn
- ▶ Lots of boilerplate
  - ▶ Can't just open a new file and begin writing
- ▶ Verbose

```
\begin{theorem}[Fermat's little theorem]
```

If  $p$  is a positive prime and  $a \not\equiv 0 \pmod p$ , then  $a^{p-1} \equiv 1 \pmod p$ .

```
\begin{proof}
```

Assume hypothesis.

Consider  $S = \{a, 2a, 3a, \dots, (p-1)a\}$ . No pair of numbers in  $S$  are congruent  $\pmod p$ . We know this because  $ia \equiv ja \pmod p \iff p \mid a(i-j) \iff p \mid (i-j)$ , which we know to be false since  $0 < |i-j| < p$ , or  $p \mid a$ , which we know to be false by the hypothesis.

We know that each number in  $S$  is congruent to exactly one number in  $\{1, 2, \dots, p-1\}$ , and vice versa.

Thus,

```
\begin{align*}
```

```
& a(2a)(3a) \dots (p-1)a \equiv 1 \cdot 2 \cdot 3 \dots (p-1) \pmod p \\\
```

```
\Rightarrow & a^{p-1}(p-1)! \equiv (p-1)! \pmod p \\\
```

```
\Rightarrow & p \mid (p-1)!(a^{p-1} - 1) \\\
```

```
\Rightarrow & p \mid a^{p-1} - 1 \quad \&\& \text{because } p \not\mid (p-1)! \\\
```

```
\Rightarrow & a^{p-1} \equiv 1 \pmod p
```

```
\end{align*}
```

```
\end{proof}
```

```
\end{theorem}
```

# Solution: Markdown!

- ▶ Easy to learn
- ▶ Simple and concise
- ▶ Just plaintext
  - ▶ Open
  - ▶ Editable in vim, emacs, etc. :)
  - ▶ Even editable in ed - the standard editor

Demo

Questions?

Solution: Markdown...?

# Solution: Markdown & Pandoc!

- ▶ Easy to learn
- ▶ Simple and concise
- ▶ Just plaintext
  - ▶ Open
  - ▶ Editable in vim, emacs, etc. :)
  - ▶ Even editable in ed - the standard editor
- ▶ Easy to convert to many formats
  - ▶ Just one terminal command away!



# Pandoc

- ▶ Requires installing pandoc and a local LaTeX interpreter
  - ▶ e.g. `brew install pandoc` and `brew install mactex` if you don't already have a LaTeX interpreter installed
    - ▶ Installing LaTeX will take a while
- ▶ Can easily convert Markdown files to LaTeX, documents, slideshows, etc.
- ▶ You can use LaTeX in your Markdown document if you want
  - ▶ Great for typesetting math

Demo

Questions?

<https://blog.jez.io/reach-for-markdown>

# Midterm Review