Introduction to LATEX & Overleaf

Equations, diagrams, and automated document formatting

COMPASS 2024

LaTeX (pronounced LAH-TECH) **is a typesetting software system.**

Write simple code → control text formatting

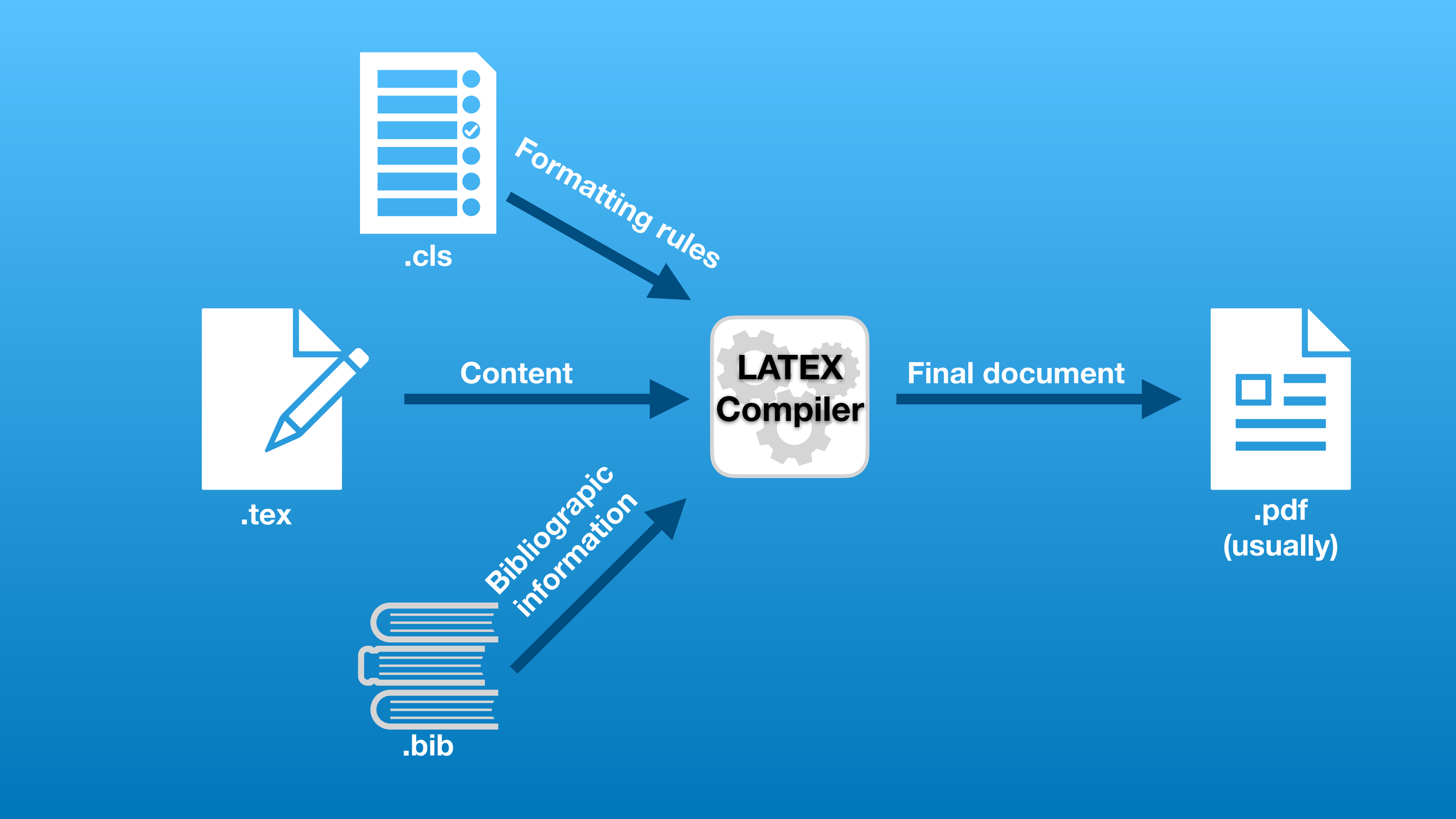
Equations:

```
\int^\pi_{\sqrt{e}} \sum^N_{i=1} f(x^i)\frac{\ln(x^i) - \sin(x^i /
  2\pi)}{\prod^N_{j \geq i}g^{-1}(\vec{y})}dx^i
```

→

$$\int_{\sqrt{e}}^{\pi} \sum_{i=1}^{N} f(x^i) \frac{\ln(x^i) - \sin(x^i/2\pi)}{\prod_{j \geq i}^{N} g^{-1}(\vec{y})} dx^i$$

Overleaf is a cloud-based collaborative LaTeX editor —a.k.a "Google Docs for LaTeX".


.cls
Formatting rules
.tex
Content
LATEX
Compiler
Final document
.pdf
(usually)
Bibliograpic
information
.bib

1. Go to Overleaf

   www.overleaf.com

2. Create Account / Login

3. Create “Example Project”

Equation examples

```
V_{sph} = r^3 \pi \frac{4}{3} → 
```

$$V_{sph} = r^3 \pi \frac{4}{3}$$

```
x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}

→ 
```

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

```
\Big[\sum_{k=0}^n e^{k^2}\Big] → 
```

$$\Big[\sum_{k=0}^{n} e^{k^2}\Big]$$

Math resources:

tug.ctan.org/info/undergradmath/undergradmath.pdf

detexify.kirelabs.org

Bibliography management:

JabRef: www.jabref.org

Zotero: www.zotero.org

+Better BibTex: retorque.re/zotero-better-bibtex