

# Quick and Easy Minimal Introduction to Accessible Documents

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# Key Points

## Latex to tagged PDF:

- ▶ Use LuaLatex (update your TexLive to 2025)
- ▶ Add alt text to Figures
- ▶ Or simply use Overleaf

## Latex to HTML:

- ▶ LatexML
- ▶ MathJax

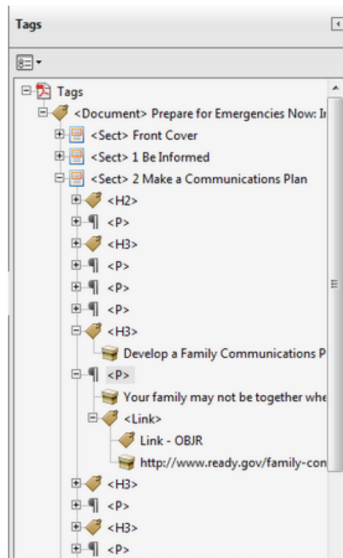
## New or Other Platforms:

- ▶ PreTeXt
- ▶ Word, PowerPoint, Excel ... so they claimed

## Teaching Pit Crew Website (TPC):

<https://www.math.purdue.edu/~yipn/TPC>

# What is a tagged PDF



## Create a Personal Support Network (con't)

Talk to your employer and co-workers about the assistance you might need in an emergency. This is particularly important if you need to be lifted or carried. Talk about any communication difficulties, physical limitations, equipment instructions and medication procedures that might arise during an emergency. Always participate in exercises, trainings and emergency drills offered by your employer or in your community.

## Develop a Family Communications Plan

Your family may not be together when disaster strikes, so plan how you will contact one another and review what you will do in different situations. For more information on how to develop a family communications plan, visit <http://www.ready.gov/family-communications>.

## Deciding to Stay or Evacuate

Depending on your circumstances and the nature of the emergency, the first important decision is whether to stay or go. You should understand and plan for both possibilities. Use common sense and available information to determine if there is immediate danger. In any emergency, local authorities may not immediately be able to provide information on what is happening and what you should do. However, you should monitor television,

# Latex to tagged PDF

- ▶ Use LuaLatex (update your TexLive to 2025)
- ▶ Use DocumentMetadata and unicode-math:

```
1 \DocumentMetadata{
2     lang=en,
3     pdfversion = 2.0,
4     pdfstandard = ua-2, %or a-4
5     tagging=on,
6     tagging-setup={math/setup=mathml-SE}
7 }
8 \documentclass[12pt]{article}
9 %\documentstyle[portland, epsfig, 12pt]{article}
10 %\pagestyle{empty}
11 %\pagestyle{headings}
12 \usepackage{amsmath,amsfonts,amssymb}
13 \usepackage{epsfig}
14 \usepackage{showkeys}
15 \usepackage{unicode-math}
```

# Latex to tagged PDF

## ► Add alt text to Figures


```
1 \includegraphics[height=4cm,alt={Portrait of Shakespeare}]{william-shakespeare.jpg}  
2 \includegraphics[height=4cm,artifact]{crinklepaper}\makebox[0pt][r]{Some text }  
3 \includegraphics[height=\baselineskip,actualtext=A]{example-image-a.jpg}
```


## ► You can also use Overleaf which includes all the most updated packages. In File/Settings:



### Settings



×

<> Editor

 **Compiler**

 Appearance

 Account settings 

 Subscription 

Main document

The primary file for compiling your project. You can also right-click a file to set it as main.

screenreadde▼

Compiler

The LaTeX engine used for compiling

LuaLaTeX ▼

TeX Live version

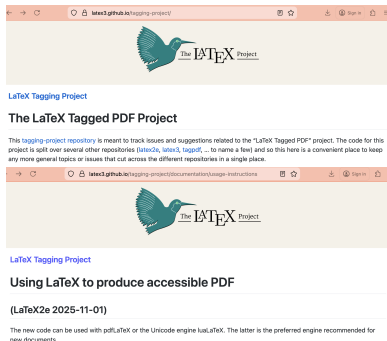
The version of TeX Live used for compiling

2025 ▼

# Latex to tagged PDF

The following resources have many **actual examples** and comments (all accessible from TPC):

- ▶ Contributions by Mike Montoro
- ▶ Webpage of Tim Prescott:  
<https://sites.und.edu/timothy.prescott/accessible/>
- ▶ Latex Tagging Project



# Latex to HTML

- ▶ Use LatexML (see contributions by Arshak Petrosyan in TPC):

## Using LaTeXML

### Basic Command-Line Workflow

If you are comfortable with the command line, the workflow typically involves two steps:

```
latexml --dest=yourfile.xml yourfile.tex  
latexmlpost --dest=yourfile.html yourfile.xml
```

Here is an [example](#).

### Single-Step Conversion

```
latexmlc --dest=yourfile.html yourfile.tex
```

# Latex to HTML

## ► Use MathJax:

### MathJax v4: TeX input, HTML output test

When  $a \neq 0$ , there are two solutions to  $ax^2 + bx + c = 0$  and they are

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

#### The Lorenz Equations

$$\begin{aligned}\dot{x} &= \sigma(y - x) \\ \dot{y} &= \rho x - y - xz \\ \dot{z} &= -\beta z + xy\end{aligned}$$

#### The Cauchy-Schwarz Inequality

$$\left( \sum_{k=1}^n a_k b_k \right)^2 \leq \left( \sum_{k=1}^n a_k^2 \right) \left( \sum_{k=1}^n b_k^2 \right)$$



# Latex to HTML

## ► Use MathJax:

```
<head>
  <script>
    MathJax = {
      tex: {inlineMath: {'+': [['$', '$']]]}
    };
  </script>
  <script defer src="https://cdn.jsdelivr.net/npm/mathjax@4/tex-ctml.js"></script>
</head>

<body>

<p>
  When  $a \neq 0$ , there are two solutions to  $(ax^2 + bx + c = 0)$  and they are
  
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

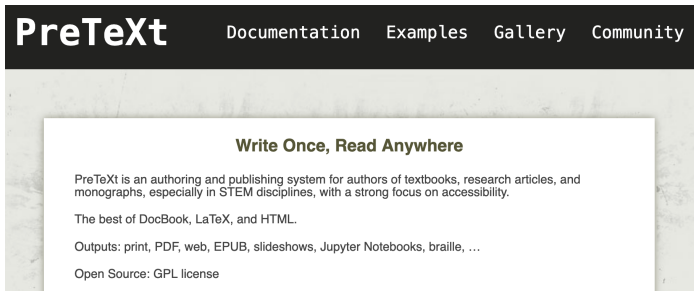
</p>

<h2>The Lorenz Equations</h2>

<p>
  \begin{align}
    \dot{x} &= \sigma(y-x) \\
    \dot{y} &= \rho x - y - xz \\
    \dot{z} &= -\beta z + xy
  \end{align}
</p>
```

# New Platforms

## ► PreTeXt:

A screenshot of the PreTeXt website. The top navigation bar is black with white text for 'PreTeXt' and links to 'Documentation', 'Examples', 'Gallery', and 'Community'. The main content area has a light beige background with a white rectangular box in the center. Inside the box, the heading 'Write Once, Read Anywhere' is followed by a paragraph describing PreTeXt as an authoring and publishing system for textbooks, research articles, and monographs, emphasizing accessibility. Below this, it states 'The best of DocBook, LaTeX, and HTML.' and lists outputs: 'print, PDF, web, EPUB, slideshows, Jupyter Notebooks, braille, ...'. The last line says 'Open Source: GPL license'.

# New Platforms

- ▶ PreTeXt (Examples from Jakayla Robbins):  
[https://www.math.purdue.edu/~jrrobbin/spring26\\_266/frontmatter.html](https://www.math.purdue.edu/~jrrobbin/spring26_266/frontmatter.html)

## Ordinary Differential Equations: MA26600 Spring 2026

Jakayla Robbins

≡ Contents



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## Ordinary Differential Equations

MA26600 Spring 2026

Jakayla Robbins

Department of Mathematics  
Purdue University

# New Platforms

- PreTeXt (Examples from Jakayla Robbins):  
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Front Matter

Course Documents

Lecture Notes

Lesson 1, Introduction to  
Differential Equations

Lesson 2, Using Integration to  
Solve Simple Differential  
Equations

Lesson 3, Slope Fields and  
Sketching Solution Curves

Lesson 4, Separable Differential  
Equations and Applications

Lesson 5, First-order Linear  
Differential Equations, Part I

Lesson 6, First-order Linear  
Differential Equations, Part II

Lesson 7, Substitution Methods

Lesson 8, Exact Differential  
Equations and More  
Substitutions

Lesson 9, Population Growth  
Models

Lesson 10, Equilibrium Solutions  
and Stability

## Lesson 2, Using Integration to Solve Simple Differential Equations



### Textbook Section(s).

This lesson is based on Section 1.2 of your textbook by Edwards, Penney, and Calvis.

**Differential Equations of the form**  $\frac{dy}{dx} = f(x)$ .

A differential equation of the form:

$$\frac{dy}{dx} = f(x)$$

has **general solution**

$$y(x) = \int f(x) dx + C$$

(The "+C" is redundant, but I included it to stress that the generic constant is required in a general solution.)

# Rule on Archived Web Content

<https://www.ada.gov/resources/2024-03-08-web-rule/>

Web content that meets **all four** of the following points would not need to meet WCAG 2.1, Level AA:

- (a). The content was created before the date the state or local government must comply with this rule, or reproduces paper documents or the contents of other physical media (audiotapes, film negatives, and CD-ROMs for example) that were created before the government must comply with this rule, **AND**
- (b). The content is kept only for reference, research, or recordkeeping, **AND**
- (c). The content is kept in a special area for archived content, **AND**
- (d). The content has not been changed since it was archived.