

# L<sup>A</sup>T<sub>E</sub>X.css Printable Design

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## Abstract

LaTeX.css is an almost class-less CSS library that turns your HTML document into a website that looks like a L<sup>A</sup>T<sub>E</sub>X document. Write semantic HTML, add `<link rel="stylesheet" href="https://latex.now.sh/style.css">` to the `<head>` of your project and you are good to go. The source code can be found on GitHub at <https://github.com/vincentdoerig/latex-css>.

This is a printable CSS design for LaTeX.css, using [Paged.js](#). Both together display the document paginated in the screen, and allow to export it to PDF format through the browser.

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## Getting Started

- Add `<link rel="stylesheet" href="https://latex.now.sh/style.css">` to the `<head>` of your website or install the package using `npm install latex.css`.
- (optional) Add any classes to elements described in the [next section](#).
- (optional) Add dark mode by adding the `latex-dark-auto` class to the `<body>`. More infos [here](#).
- (optional) If you need support for  $\LaTeX$  math, add the following script to include [MathJax](#):

```
<script id="MathJax-script" async src="https://cdn.jsdelivr.net/mathjax/latest/mathjax.min.js"></script>
```

- (optional) If you need syntax highlighting, add the following script to include [Prism](#) and the Prism LaTeX stylesheet (or use any other):

```
<link rel="stylesheet" href="https://latex.now.sh/prism/prism-latex.css">
<script src="https://cdn.jsdelivr.net/npm/prismjs/prism.min.js"></script>
```

- (optional) If you want to see the document with a paginated design add the [Paged.js](#) script (see detailed section about [Paged.js loading](#)).
- Done.

# Class-based Elements

## Author and Abstract

Use the following code to add an author and abstract to your document. It will look like [this](#).

```
<p class="author">John Doe <br> December 7, 2020</p>

<div class="abstract">
  <h2>Abstract</h2>
  <p>...</p>
</div>
```

## Theorems, Definitions, Lemmas and Proofs

Theorems, definitions, lemmas and proofs are supported. Just wrap your content in a div and add the corresponding class to the element like in the following example.

```
<div class="theorem">...</div>
<div class="definition">...</div>
<div class="lemma">...</div>
<div class="proof">...</div>
```

Below are some examples.

## Proofs & Theorems

**Theorem 1.** *The real numbers  $\mathbb{R}$  are uncountable.*

*Proof.* If  $\mathbb{R}$  is countable, then  $[0, 1]$  is countable as well. Hence there exists a map  $C$  from  $\mathbb{N}$  onto  $[0, 1]$  with

$$C(n) = \sum_{i=1}^{\infty} c_i(n)10^{-i}$$

where  $c_i(n) \in \{0, 1, \dots, 9\}$ , are the digits in decimal expansion. Now consider a real number

$$x = \sum_{i=1}^{\infty} \bar{c}_i 10^{-i} \in [0, 1]$$

with  $\bar{c}_i \neq c_i(i)$ . Obviously  $C(n) \neq x$  for all  $n \in \mathbb{N}$ . Hence  $C$  is not onto. A contradiction. ■

**Theorem 2.** *If  $S$  is both countable and infinite, then there is a bijection between  $S$  and  $\mathbb{N}$  itself.*<sup>1</sup>

*Proof.* For any  $s \in S$ , we let  $f(s)$  denote the value of  $k$  such that  $s$  is the  $k$  the smallest element of  $S$ . This map is well defined for any  $s$ , because there are only finitely many natural numbers between 1 and  $s$ . It is impossible for two different elements of  $S$  to both be the  $k$  the smallest element of  $S$ . Hence  $f$  is one-to-one. Also, since  $S$  is infinite,  $f$  is onto. ■

## Lemmas

**Lemma 3.** *An even number plus an even number results in an even number.*

## Definitions

**Definition 1.** A definition is a a statement of the meaning of a word or word group or a sign or symbol.<sup>2</sup>

## Paragraphs

In order to get automatic first line indentation of paragraphs, like in default L<sup>A</sup>T<sub>E</sub>X articles, the class `indent-pars` can be used with `article` tag.

```
<article class="indent-pars">
...
</article>
```

The CSS style provided follows `babel` specific language rules: by default, the first paragraph after a section title is not indented in English, unlike Spanish and French languages.

To avoid first line indentation of some specific paragraph, the class `no-indent` can be used.

```
<p class="no-indent">...</p>
```

## Language Support

The labels of theorems, definitions, lemmas and proofs can be changed to other [supported language](#) by including the following snippet, linking to the desired language in addition to the main CSS file.

```
<link rel="stylesheet" href="https://latex.now.sh/lang/es.css" />
...
<html lang="es">
```

Take a peek at the [language support demo](#) to see how the labels of the different languages change.

## Sidenotes

Sidenotes can be used as an alternative to footnotes, where the user does not have to jump to the bottom of the page to read it. On mobile, click the superscript to reveal the note<sup>1</sup>.

Sidenotes do need a little bit of setup, they are made up of a label, an invisible checkbox on top of the number and a span with the text inside. The superscript is set automatically and incremented using CSS when the checkbox has a class of `sidenote-number`.

```
<label for="sn-1" class="sidenote-toggle sidenote-number"></label>
<input type="checkbox" id="sn-1" class="sidenote-toggle" />
<span class="sidenote"><!-- sidenote content --></span>
```

<sup>1</sup> Yay, sidenotes!. If you are on mobile, I will appear inline. If you are using a larger screen, the sidenote will appear to the right of the text.

If you do not need superscripted numbers, you can opt out of the `sidenote-number` class and the sidenote will not have a number assigned. On a

smaller screen, you will need to add a symbol inside the `label` for the user to click on.

This is a sidenote without a number.

The snippet for a sidenote without a number is very similar:

```
<label for="sn-anything" class="sidenote-toggle">⊕</label>
<input type="checkbox" id="sn-anything" class="sidenote-toggle" />
<span class="sidenote"><!-- sidenote content --></span>
```

Add a class of `left` to the `span` with the `sidenote` class to make the note appear on the left side of the page on instead of right.

The symbol you could use to indicate a sidenote is up to you. What about this notebook.

A notebook indicating a note. Aha. (if on a large screen, re-size to mobile to see the emoji)

## Dark Mode

There is built-in support for dark mode. By default, the document is in light mode. To enable dark mode, add the `latex-dark` class to the `<body>` element. This will force the document to be in dark mode.

If you want enable dark mode based on the `prefers-color-scheme` CSS media query, then use the `latex-dark-auto` class instead.

## Alternative Typeface

`LATEX.css` uses Latin Modern by default. If you don't like this typeface (hard to read, too thin, etc.), you can switch to the [Libertinus](#) font family by adding a class of `libertinus` to the `<body>` tag.

## HTML Elements

For a preview of all HTML elements with `LaTeX.css`, check out the [HTML5 elements test page](#).

## Text Formatting

This sentence is **bold**. If you like semantics, you might go with **strong** or *emphasized* text. If not, *italic* is still around. Small text is for fine print. Your copy can also be subscripted and superscripted, inserted, ~~deleted~~, or highlighted. You would use a [hyperlink](#) to go to a new page. Keyboard input elements like `Cmd` + `Shift` are used to display textual user input.

## Blockquotes

Give me six hours to chop down a tree and I will spend the first four sharpening the axe. — *Abraham Lincoln*

## Definition Lists

Definition Title One

First definition description

Binomial theorem

$$(x + y)^n = \sum_{k=0}^n \binom{n}{k} x^{n-k} y^k = \sum_{k=0}^n \binom{n}{k} x^k y^{n-k}$$

## Tables

**Table 1.** A sample table with a descriptive caption.

Header 1	Header 2	Header 3
Description 1	Description 2	Description 3
Description 1	Description 2	Description 3
Description 1	Description 2	Description 3
Footer 1	Footer 2	Footer 3

**Table**

**2.**

Example

table

taken

from

[this paper](#) on how to produce quality tables with LaTeX.

Item		
Animal	Description	Price (\$)
Gnat	per gram	13.65
Gnu	stuffed	92.50
Emu	stuffed	33.33
Armadillo	frozen	8.99

**Table 3.** Color names and values.

Name	HEX	HSL	RGB
<b>Teal</b>	#008080	hsl(180, 100%, 25%)	rgb(0, 128, 128)
<b>Goldenrod</b>	#daa520	hsl(43, 74%, 49%)	rgb(218, 165, 32)
<b>Cornflowerblue</b>	#6495ed	hsl(219, 79%, 66%)	rgb(100, 149, 23)
<b>Lightcoral</b>	#f08080	hsl(0, 79%, 72%)	rgb(240, 128, 12)

## Images



Mountain landscape by [John Towner](#).

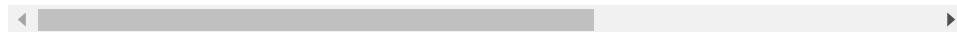
## Miscellaneous

### Scroll Overflow

It is best to break up long equations into smaller parts, but when this isn't possible, consider wrapping the overflowing element with a class of `scroll-wrapper` to allow scrolling on the x-axis. Large tables should also be wrapped with this class.

Below is an example of a long equation with overflow scroll.

$$(1 + x)^n = 1 + nx + \frac{n(n-1)}{2!}x^2 + \frac{n(n-1)(n-2)}{3!}x^3 + \frac{n(n-1)(n-2)(n-3)}{4!}x^4 + \dots$$



### Syntax Highlighting

If you need syntax highlighting for code, LaTeX.css provides a [PrismJS](#) theme that immitates the [minted](#) package for LaTeX. Add the following stylesheet and script:

```
<link rel="stylesheet" href="https://latex.now.sh/prism/prism.css"
<script src="https://cdn.jsdelivr.net/npm/prismjs/prism.min.js"></script>
```



And use it like this:

```
<pre>
  <code class="language-html">
    <!-- your HTML code snippet -->
  </code>
</pre>
```

Change which languages Prism highlights by customising the script [here](#).

# Printable Version

## Paged.js Loading

If you want to paginate the document with Paged.js, you only need to add a link to the script and load the HTML file in a web server.

In order to work properly, Paged.js must be the last one of the scripts that modify the DOM and CSSOM to load. LaTeX.css provides a custom configuration to easily load Page.js together with MathJax and Prism.js if they are found (so attribute `async` is not recommended in script loading). You must proceed as follows:

```
<!--add optionally MathJax or Prism.js if you need them-->
<!--
<script defer id="MathJax-script" src="https://cdn.jsdelivr.net/np
<script defer src="prism/prism.js"></script>
-->
<script defer src="latex-css-print.js"></script>
<script defer src="https://unpkg.com/pagedjs/dist/paged.polyfill.js"></script>
```

If you want to load some other javascript libraries, which provides a startup promise, you can pass a vector of promises to `LatexCss` this way

```
<script src="url/to/scriptOne.js"></script>
<script src="url/to/scriptTwo.js"></script>
<script>
  LatexCss = {
    afterLoadPromises: [promiseScriptOne, promiseScriptTwo],
  }
</script>
<script src="latex-css-print.js"></script>
```

However, you must be very careful with the scripts you load and the “lazy loading” HTML elements you use, or you can easily break the document display.

Finally, if you want to print the document: click “Print...” entry in your browser main menu and then select “Save as PDF”, making sure “Margins” and “Headers and Footers” options are set to “none”.

## Paged.js Tweaking

There are two different points to discuss: how the document is displayed in the screen and how the document is printed, corresponding to `@media screen { ... }` and `@media print { ... }` respectively.

Starting from version 4.1 Paged.js removes any CSS rule inside `@media screen { ... }`, both for screen display and print; you must add `pagedjs-ignore` so Paged.js skips this media block, passing it to the screen display:

```
@media screen, pagedjs-ignore {  
  /* CSS rules that will affect only the display on the screen */  
}
```

Paged.js includes a `style` element in the header of the html file with its default CSS styles (see [here](#)). Also, reads and processes all your CSS styles and files and inserts them in the same way.

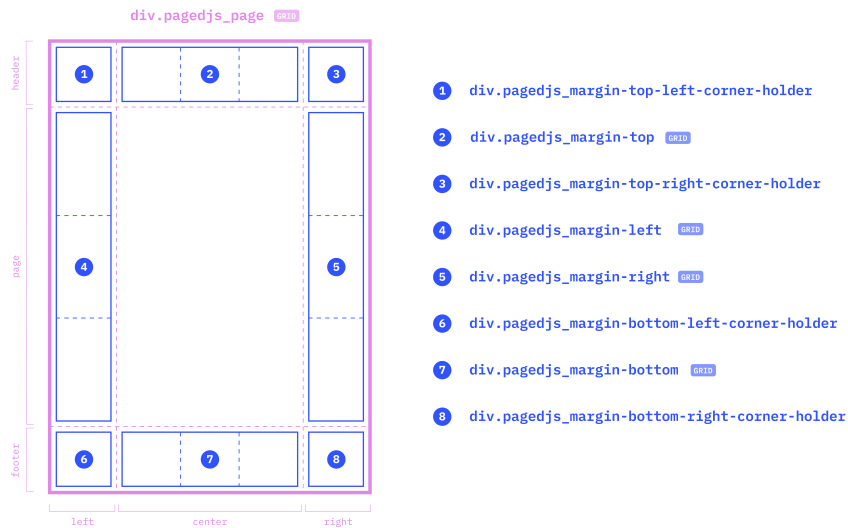
## Paged.js design

Paged content design is organized following this scheme:

```
div.pagedjs_pages > div.pagedjs_page > div.pagedjs_sheet > div.pa
```

`div.pagedjs_sheet` is arranged as a grid including sheet bleeds; `div.pagedjs_pagebox` is arranged as a grid, containing page margins. And `div.pagedjs_pagebox` is page box from [CSS page model](#)

The design of `pagedjs_pagebox` consist of four corner margins, and four group of margins distributed on a grid with three columns and rows.



Grid design for `div.pagedjs_pagebox` (from [Paged.js](#) documentation)

You can learn more about Paged.js page layout [here](#)

## Some Paged.js Variables

You can assign values for some of the following variables, but they also can be automatically populated by Paged.js. For example if you use a CSS style like

```
@media print {
  @page {
    size: A4 portrait;
    ...
  }
  ...
}
```

the values for `--pagedjs-width` and `--pagedjs-height` (among others) will be populated with the right A4 size paper dimensions. Here is a list of some of Paged.js variables, their names are autodescriptive:

- `--pagedjs-width`, `--pagedjs-height`.
- `--pagedjs-margin-top`, `--pagedjs-margin-right`, `--pagedjs-margin-bottom`, `--pagedjs-margin-left`.

- `--pagedjs-width-right`, `--pagedjs-height-right`, `--pagedjs-width-left`, `--pagedjs-height-left`.
- `--pagedjs-pagebox-width`, `--pagedjs-pagebox-height`.
- `--pagedjs-page-count`.
- `--pagedjs-page-counter-increment`.
- `--pagedjs-footnotes-height`.
- `--pagedjs-footnotes-count`.

You must also be careful where the variables are populated/updated, in order to get the right values.

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1. From <https://www.math.brown.edu/~res/MFS/handout8.pdf>. ↩

2. “Definition.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/definition>. Accessed 18 May. 2020. ↩