## The mkbook Book

Kenton Hamaluik

Dec 12, 2019

### Contents

7	Ггетасе		>
_	Cor 1.1	Command-line Interface	7
	1.2	The Build Command	(C)
	1.3	The Watch Command	4
	1.4	Sample Usages	Ŋ
7	Man	Markdown	1
	2.1	CommonMark	1
	2.2	Syntax Highlighting	6
	2.3	PlantUML Diagrams1	(L)
	2.4	KaTeX (Math) Formulas	4
	2.5	Images	ιO
	2.6	Tables1	9
	2.7	Task Lists	9
	2.8	Links 1	9
3	Fro	Front Matter	5
	3.1	Supported Keys1	6
4	Stru	Structure	21
	4.1	README.md 2	21
		4.1.1 Sample 2	21
		Values	22
	4.2		22
	4.3	Documents	23
5	Cus	Customization 2	25

		7						6
7.2	7.1	LaT	6.5	6.4	6.3	6.2	6.1	Hov
7.2 Building the Book	7.1 Images	LaTeX Output 31	6.5 Syntax Highlighting	Markdown Formatting	Templates	Styling	Assets	How it Works 27

### 7.2.1 Compiling a Booklet

to arrange the pages so that a simple duplex print on any printer will produce signatures that you can easily bind yourself (there are many tutorials online for doing this, I recommend Easy paperback book binding how-to<sup>20</sup> by Rubén If you want to easily print this book as a booklet, you can take one more step Berenguel).

The first step is to create a file alongside your compiled book, pdf file called printbook.tex with the contents as such:

```
\includepdf[pages=-,nup=1x2,landscape,signature=32]{book.pdf}
\documentclass[letterpaper]{article}
                                            \usepackage[final]{pdfpages}
                                                                                           \begin{document}
                                                                                                                                                                           \end{document}
```

of 4. The signature<sup>21</sup> is the number of pages (not sheets of paper) which get combined into a "mini-booklet", and the final book is a combination of all of the signatures ("mini-booklets") to make the full book. Essentially, if you have to staple together at a time. For a signature of 32 pages, this will mean You can change the value of signature as you like, but keep it a multiple divide this number by 4, you'll get the number of sheets of paper that you'll stapling together 8 pages at a time.

Note that if you have a relatively short book, it may be advantageous to nature the next multiple-of-four value higher than the total number of sheets ust do all of the book's pages into one signature, in this case make the sigin the book, pdf file. For example: if book, pdf contains 45 pages, make signature=48 to put everything into a single signature.

Finally, compile printbook.tex using pdflatex:

```
pdflatex printbook.tex
```

As a sample, you can view the compiled  $book^{22}$  and printbook<sup>23</sup> files for this book to see how this can turn out.

#### Preface

mkbook is my simpler alternative to mdbook which is a great tool, however I really dislike some of the decisions they took-such as relying on javascript for highlighting and navigation and including a lot of bells and whistles such as javascript-based search.

This tool aims to work somewhat similarly to mdbook, but is generally intended to be a more minimal alternative that is customized more towards my needs and desires than anything else.

If you're not familiar with mdbook, mkbook is a tool to convert a collection line. It was created to help me write documentation with minimum fuss while of Markdown<sup>2</sup> files into a static website / book which can be published onpresenting it in an easy-to-consume manner.

 $<sup>^{20}</sup>$ nttps://mostlymaths.net/2009/04/easy-paperback-book-binding-how-to.

html/ <sup>21</sup>https://en.wikipedia.org/wiki/Section\_(bookbinding)

<sup>22</sup> book.pdf

<sup>23</sup> printbook.pdf

<sup>1</sup>https://crates.io/crates/mdbook

<sup>&</sup>lt;sup>2</sup>https://commonmark.org/

### 7.2. BUILDING THE BOOK

- enumitem<sup>10</sup>
- $textcomp^{11}$
- graphicx<sup>12</sup>
- float<sup>13</sup>
- svg<sup>14</sup>

The template also requires  $XeTeX^{15}$  and the following fonts to be available on your system:

- Crimson<sup>16</sup>
- Poppins<sup>17</sup>
- Source Code Pro<sup>18</sup>

Finally, in order to color the source code, you must have Pygments<sup>19</sup> installed and the pygmentize executable must be available on your path.

If you meet all these requirements, you can build the book using xelatex. Assuming you built the book. tex file in the print directory as above:

```
cd print
xelatex -shell-escape book.tex
xelatex -shell-escape book.tex
```

Note that the -shell-escape argument is required in order to get *Pyg-ments* to colour your source code, and the xelatex command is run twice in order to properly build the table of contents.

Note also that in the current template, the pages that are created are 5.5

inches by 8 inches. This is to facilitate booklet printing on North American letter paper. Feel free to change this in the generated book.tex file before compiling if you need to.

10 https://ctan.org/pkg/enumitem
11 https://ctan.org/pkg/textcomp
12 https://ctan.org/pkg/float
13 https://ctan.org/pkg/float
14 https://ctan.org/pkg/svg
15 https://www.tug.org/xetex/
16 https://www.fontsquirrel.com/fonts/poppins
18 https://github.com/skosch/Crimson
17 https://github.com/adobe-fonts/source-code-pro
19 https://pygments.org/

CHAPTER 7. LATEX OUTPUT

```
mkbook build -l ./print/book.tex
```

Note that this command is more about preparing a .tex file that you can then further customize for your own book than having a complete, ready-to-go PDF that is entirely your own—the current LaTeX template that gets generated works for me but it may not work for you.

#### 7.1 Images

If an image in the document is an external image (i.e. it starts with http://orhttps://). mkbook will attempt to download the image the same directory that the generated LaTeX document resides in. If it cannot do so, it will tell you. If, on the other hand, the image is in the source tree, it will be copied over the same way that any other asset is and should be available to the LaTeX file.

Similar to this, *mkbook* will attempt to render any plantuml code sections into .svg files which also get included in the book.

### 7.2 Building the Book

The current LaTeX template requires the following packages to be installed:

- ulem<sup>3</sup>
- fontspec<sup>4</sup>
- sectsty<sup>5</sup>
- xcolor<sup>6</sup>
- minted<sup>7</sup>
- amsmath<sup>8</sup>

•  $amssymb^9$ 

- 3https://ctan.org/pkg/ulem
  4https://ctan.org/pkg/fontspec
  - Shttps://ctan.org/pkg/sectsty
    - https://ctan.org/pkg/xcolor
- https://ctan.org/pkg/minted8https://ctan.org/pkg/amsmatk
- 8https://ctan.org/pkg/amsmath
  9https://ctan.org/pkg/amssymb

### **Chapter 1**

# Command-line Interface

mkbook may be installed using Cargo (cargo install --force --path .
in the mkbook repo directory), and after that it presents a command-line interface:

```
SUBCOMMANDS:
                                                                                                                                                                                                                                                                                                                                      FLAGS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kenton Hamaluik <kenton@hamaluik.ca>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mkbook 0.3.0
                                                                                                                   build
                       watch
                                                                                                                                                                                                                                                                                                               -h, --help
                                                                                                                                                                                                                                                                                                                                                                                      mkbook [SUBCOMMAND]
→ source changes
                                                 init
                                                                        ⇒ subcommand(s)
                                                                                             help
                                                                                                                                                                                                                                          -V, --version
                                                                                                                                                                                                                                                                                      Prints help information
                       build the book and continually rebuild whenever the
                                                                                                                                                                                                                    Prints version information
                                                                                          Prints this message or the help of the given
                                                                                                                   build the book
                                           initialize a mkbook directory tree
```

### 1.1 The Init Command

The init command is a tool to help you get started, and will create an initial README.md file and a stub of your first chapter.

#### Chapter 7

### LaTeX Output

 $\it mkbook$  can also export a LaTeX $^1$  file which can be used to convert your book to a beatiful, ready-to-print PDF $^2$ . This feature is still under heavy development as it's not quite as smooth as I would like, and the generated . tex document is perhaps a bit too customized—I'm still exploring this.

For now, however, you can convert your book into a single .tex file with the following command which will create the file ./print/book.tex along with any images needed to render the book:

https://www.latex-project.org/
2https://en.wikipedia.org/wiki/PDF

30

```
$ mkbook init --help
mkbook-init
initialize a mkbook directory tree

USAGE:
    mkbook init [OPTIONS]

FLAGS:
    -h, --help Prints help information
    -V, --version Prints version information

OPTIONS:
    -directory <directory> an optional directory to
    -diritialize into [default: src]
```

## 1.2 The Build Command

The build command is the primary command for *mkbook*, and is responsible for taking the .md files and building the resulting website.

toml<sup>20</sup>

```
FLAGS:
                                                                                                                                                                                                                                                                                                                                  $ mkbook build --help
                                                                                                                                                                                                                                                                                        build the book
                                                                                          OPTIONS:
                                                                                                                                                                                                                                               USAGE:
                                                                                                                                                                                                                                                                                                               mkbook-build
                                                                                                                                                      -h, --help
                                                                                                                                                                                                                       mkbook build [OPTIONS]
                                                                  -i, --in <in>
                      -o, --out <out>
                                               $
                                                                                                                                   -V, --version
into [default: book]
                                          from [default: src]
                                                                                                                                   Prints version information
                                                                                                                                                      Prints help information
                      an optional directory to render the contents
                                                                an optional directory to take the book sources
```

## 1.3 The Watch Command

The watch command is basically the same as the build command, however after building it continues to monitor the source directory and if *any* changes are made (a file is saved, renamed, removed, created, etc.), the entire book is re-built. In the future, this will hopefully be smarter but for now it just the whole thing at once. Stop watching using <kbd>Ctrl+C</kbd> or sending SIGINT.

<sup>20</sup>https://github.com/toml-lang/toml

CHAPTER 6. HOW IT WORKS

28

mat into a single, compressed . css file using sass-rs<sup>9</sup>. The resulting . css file this.css is written to the output folder as style.css, where it is included is then bundled into the binary using the macro 10. When a book is generated, by each generated .html file.

### 6.3 Templates

plates are compiled when mkbook is compiled, it is not currently possible to mkbook contains two template files: one for the index, and one for each page / chapter, and uses Askama<sup>11</sup> to render the templates. Since the Askama temchange the templates at run time. You can view the sources for these templates on github<sup>12</sup>.

## 6.4 Markdown Formatting

Markdown is formatted usiing comrak<sup>13</sup> with some specific options, see the Markdown chapter 14 for more information.

#### Syntax Highlighting 6.5

Code is syntax-highlighted using syntect 15 with the default langauges and the base16-eighties colour scheme. Some additional languages above the base list supported by syntect have been aded:

- haxe<sup>16</sup>
- $hxml^{17}$
- $sass^{18}$
- scss<sup>19</sup>

10https://doc.rust-lang.org/std/macro.include\_str.html 9https://crates.io/crates/sass-rs

11 https://crates.io/crates/askama

 $^{12} \mathtt{https:} // \mathtt{github.com/hamaluik/mkbook/tree/master/templates}$ 

13https://crates.io/crates/comrak <sup>14</sup>02-markdown.html

15https://crates.io/crates/syntect

16https://haxe.org/

18 https://sass-lang.com/documentation/syntax#the-indented-syntax 17https://haxe.org/manual/compiler-usage-hxml.html

!9https://sass-lang.com/documentation/syntax

1.4. SAMPLE USAGES

2

```
an optional directory to take the book sources
                                                                                                                                                                                                                                                                                                                                                                                                    an optional directory to render the contents
                                                        build the book and continually rebuild whenever the source changes
                                                                                                                                                                                                                                                         Prints version information
                                                                                                                                                                                                                               Prints help information
                                                                                                                                                                                                                                                                                                                                                                                                                               into [default: book]
                                                                                                                                                                                                                                                                                                                                                                        from [default: src]
                                                                                                                                            mkbook watch [OPTIONS]
$ mkbook build --help
                                                                                                                                                                                                                                                                                                                                                                                                  -o, --out <out>
                                                                                                                                                                                                                                                          -V, --version
                                                                                                                                                                                                                                                                                                                                             -i, ---in <in>
                                                                                                                                                                                                                               -h, --help
                               mkbook-watch
                                                                                                                                                                                                                                                                                                                     OPTIONS:
                                                                                                                                                                                                                                                                                                                                                                            ĵ
                                                                                                               USAGE:
                                                                                                                                                                                                     FLAGS:
```

### 1.4 Sample Usages

Build the GitHub Pages<sup>1</sup> document (this book):

```
mkbook build -i docs-src -o docs
```

Build the book, continually watching for changes and enabling auto-reloading in the browser so you can see the book update as you write:

```
mkbook watch -i docs-src -o docs --reload
```

Build a LaTeX<sup>2</sup> version of the book, then compile it to a PDF<sup>3</sup> and open it in evince<sup>4</sup>:

https://www.latex-project.org/ https://pages.github.com/

https://en.wikipedia.org/wiki/PDF

https://wiki.gnome.org/Apps/Evince

```
mkdir build
mkbook build -i docs-src -o docs --latex build/book.tex
cd build
xelatex -shell-escape book.tex
xelatex -shell-escape book.tex
evince book.pdf
```

### Chapter 6

### **How it Works**

mkbook generates a completely static, javascript-free website from a series of Markdown files. All of the layout and styling is controlled purely by hand-crafted CSS specific to this book's purpose.

#### 6.1 Assets

mkbook currently bundles two assets which get written into the book directory: favicon.ico, and icons.svg. favicon.ico is the Font Awesome 5 book icon<sup>1</sup>, and icons.svg contains 3 Font Awesome 5<sup>2</sup> arrow icons: arrow-left<sup>3</sup>, arrow-right<sup>4</sup>, and arrow-up<sup>5</sup> which are used for navigation. These files are compiled into the mkbook binary using the macro<sup>6</sup>, and written to the output folder on each build.

#### 6.2 Styling

mkbook utilizes Sass<sup>7</sup> to define it's styles; you can view the sources on github<sup>8</sup>. In mkbook's build script, the styles are compiled from their native .scss for-

https://fontawesome.com/icons/book?style=solid
2https://fontawesome.com/
3https://fontawesome.com/icons/arrow-left?style=solid
4https://fontawesome.com/icons/arrow-right?style=solid
5https://fontawesome.com/icons/arrow-up?style=solid
6https://fontawesome.com/icons/arrow-up?style=solid
6https://doc.rust-lang.org/std/macro.include\_bytes.html
7https://sass-lang.com/
8https://github.com/hamaluik/mkbook/tree/master/style

### Chapter 2

### Markdown

*mkbook* relies pretty extensively on Markdown<sup>1</sup> for its ease of use. If you're not familiar with *Markdown*, it is a simple markup language that is design to be easy to read and write in plain text, and then (relatively) easy for a computer to convert into other formats such as HTML or LaTeX.

The above paragraph looks like this:

```
_mkbook_ relies pretty extensively on 
[Markdown](https://daringfireball.net/projects/markdown/) for 
its ease of use. If you're not familiar with _Markdown_, it is 
a simple markup language that is designed to be easy to read 
and write in plain text, and then (relatively) easy for a 
computer to convert into other formats such as HTML or LaTeX.
```

Markdown by itself isn't quite enough for most purposes, so mkbook actually uses the CommonMark spec with some additional extensions to make life easier.

### 2.1 CommonMark

*mkbook* nominally utilizes CommonMark<sup>2</sup> with some  $GFM^3$  extensions through the use of the comrak<sup>4</sup> crate. In using *comrak*, a specific set of options are used, which are listed here:

https://daringfireball.net/projects/markdown/
2https://commonmark.org/
3https://github.github.com/gfm/
4https://crates.io/crates/comrak

CHAPTER 2. MARKDOWN

 $\infty$ 

```
let options: ComrakOptions = ComrakOptions {
                                                                                         ext_header_ids: Some("header".to_owned()),
                                                                                                                                                                                 ext_autolink: true,
                                                                                                                                                                                                            ext_table: true,
                                                                                                                                                                                                                                                                                                                                                             github_pre_lang: false,
..ComrakOptions::default()
                                ext_description_lists: true,
                                                                 ext_footnotes: true,
                                                                                                                        ext_superscript: true,
                                                                                                                                                   ext_tasklist: true,
                                                                                                                                                                                                                                           ext_tagfilter: false,
                                                                                                                                                                                                                                                                     ext_strikethrough: true,
                                                                                                                                                                                                                                                                                                    unsafe_: true,
                                                                                                                                                                                                                                                                                                                                   default_info_string: None,
                                                                                                                                                                                                                                                                                                                                                                                              smart: true,
                                                                                                                                                                                                                                                                                                                                                                                                                       hardbreaks: false,
```

Mostly, know that the following extensions are enabled:

- Strikethrough<sup>5</sup>
- Tables<sup>6</sup>
- Autolinks<sup>7</sup>
- Task Lists<sup>8</sup>
- Superscripts (e =  $mc^2$ .  $\rightarrow e = mc < sup > 2 < / sup > .)$
- Description Lists:

### Chapter 5

## Customization

There isn't any way to customize the templates nor the CSS yet, though I will investigate this if the need arises. This is because both the templates and CSS are currently compiled at compile-time instead of run-time.

<sup>5</sup>https://github.github.com/gfm/#strikethrough-extension6https://github.github.com/gfm/#tables-extension7https://github.github.com/gfm/#autolinks-extension8https://github.github.com/gfm/#task-list-items-extension-

24

mended to lay out your book chapters with manual numbering of the file names, as such:

```
- 02-my-second-section.md
                                                                                                                                  -- 01-my-first-section.md
                                                                                       02-my-first-chapter
                                           01-introduction.md
                                                               my-picture.jpg
                      00-foreword.md
                                                                                                            --- README.md
                                                                                                                                                                            — etc...
-- README.md
```

An index and navigation will be automatically generated from these files, taking the information for each file from it's front-matter.

2.2. SYNTAX HIGHLIGHTING

```
More details in second paragraph.
                                                                                                                                                                               : Details for the **second term**
                                                         : Details for the **first term**
                                                                                                                        Second term
First term
```

#### Syntax Highlighting 2.2

GFM syntax highlighting is also available by using fenced code tags with a label denoting the language, as such:

```
std::cout << "Hello, world!" << std::endl;</pre>
                           #include <stdio>
                                                                                                                  return 0;
                                                                     int main() {
++0,.,
```

which results in:

```
std::cout << "Hello, world!" << std::endl;</pre>
#include <stdio>
                                                                                                            return 0;
                                                    int main() {
```

To denote the language you can either use one the language's extensions as the label, or the full name of the language (which is not case-sensitive).

The list of supported languages is currently as follows:

ASP asa

```
ActionScript as
```

AppleScript applescript, script editor

Batch File bat, cmd

BibTeX bib

Bourne Again Shell(bash) sh, bash, zsh, fish, .bash\_aliases, .bash\_completions,
.bash\_functions, .bash\_login, .bash\_logout, .bash\_profile,
.bash\_variables, .bashrc, .profile, .textmate\_init

C c, h

C# cs, csx

C++ cpp, cc, cp, cxx, c++, C, h, hh, hpp, hxx, h++, in1, ipp

CSS css, css.erb, css.liquid

Cargo Build Results '

Clojure clj

D d, di

Diff diff, patch

Erlang erl, hrl, Emakefile, emakefile

Go go

Graphviz (DOT) dot, DOT, gv

Groovy groovy, gvy, gradle

HTML html, htm, shtml, xhtml, inc, tmpl, tpl

HTML (ASP) asp

HTML (Erlang) yaws

HTML (Rails) rails, rhtml, erb, html.erb

HTML (Tcl) adp

Haskell hs

Haxe hx, hxsl, hscript

<code>![chapter-six](book-chapter-six-5834.jpg "Photo by Kaboompics.com  $\hookrightarrow$  from Pexels")</code>



Figure 4.1: Photo by Kaboompics.com from Pexels

### 1.3 Documents

mkbook works on mostly a flat directory structure, however one level of sub-directories are supported in order to create sections within chapters. Files that don't end in a .md extension are completely ignored. Each .md file in the root source directly is it's own chapter. To create chapters with sub-sections, create a sub-directory in the root directory and then create a README.md file, which will become the root of the chapter, with all .md files in the sub-directory becoming sections in the chapter. The title in the README.md file's frontmatter will be used as the name of the chapter.

The order of the book is based on the alphabetical order of the file names (actually it's based on Rust's implementation of for str<sup>1</sup>). Thus, it is recom-

https://doc.rust-lang.org/std/cmp/trait.PartialOrd.html# impl-PartialOrd%3Cstr%3E

```
took, such as relying on javascript for highlighting and navigation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to be a more minimal alternative that is customized more towards my
                                                                                                                                                                                                                                                                                                                                which is a great tool, but for which I really dislike some of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             including a lot of bells and whistles such as javascript-based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This tool aims to work somewhat similarly to _mdbook_, but is
                                                                                                                                                                                                                                                                                     → [mdbook](https://crates.io/crates/mdbook)
                                                                                              url = "https://hamaluik.github.io/mkbook/"
                                                                                                                                                                                                                                          .mkbook_ is my simpler alternative to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                desires than anything else.
                                                author = "Kenton Hamaluik"
title = "The mkbook Book"

→ generally intended

→ decisions they

→ needs and

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ⇒ search.

→ and
```

### 4.1.2 Default Values

"My Cool Book"

"Anonymous"

The date the book was built from the command line, in UTC time

£

#### 4.2 Assets

Any files in the src directory which are not included in . gitignore and do not end in the extension . md will be copied to the output folder. You can use this to include images, files, etc, for example the following image is an asset bundled with the book:

### 2.2. SYNTAX HIGHLIGHTING

Hxml hxml

JSON json

Java java, bsh

Java Properties properties

Java Server Page (JSP) jsp

JavaDoc "

JavaScript js, htc

JavaScript (Rails) js.erb

LaTeX tex, ltx

LaTeX Log "

Lisp lisp, cl, clisp, l, mud, el, scm, ss, lsp, fasl

Literate Haskell 1hs

Lua lua

MATLAB matlab

Make Output "

Makefile make, GNUmakefile, makefile, Makefile, OCamlMakefile, mak,

Markdown md, mdown, markdown, markdn

MultiMarkdown

NAnt Build File build

OCaml ml, mli

OCamlyacc mly

OCamllex mll

Objective-C m, h

Objective-C++ mm, M, h

PHP php, php3, php4, php5, php7, phps, phpt, phtml

PHP Source '

Pascal pas, p, dpr

Perl pl, pm, pod, t, PL

Plain Text txt

Python py, py3, pyw, pyi, pyx, pyx.in, pxd, pxd.in, pxi, pxi.in, rpy, cpy, SConstruct, Sconstruct, Sconstruct, SConscript, gyp, gypi. Snakefile, wscript

R R, r, s, S, Rprofile

R Console "

Rd (R Documentation) rd

Regular Expression re

Regular Expressions (Javascript) "

Regular Expressions (Python) "

Ruby rb, Appfile, Appraisals, Berksfile, Brewfile, capfile, cgi, Cheffile, config.ru, Deliverfile, Fastfile, fcgi, Gemfile, gemspec, Guardfile, irbrc, jbuilder, podspec, prawn, rabl, rake, Rakefile, Rantfile, rbx, rjs, ruby.rail, Scanfile, simplecov, Snapfile, thor, Thorfile, Vagrantfile

Ruby Haml haml, sass

Ruby on Rails rxml, builder

Rust rs

SCSS scss

SQL sql, ddl, dml

SQL (Rails) erbsql, sql.erb

Sass sass

Scala scala, sbt

### **Chapter 4**

### Structure

mkbook follows a fairly simple directory structure for now, with a README.md file declaring the book's metadata, and .md files defining each chapter of the book.

### 4.1 README.md

mkbook generally requires a README.md file to reside in your source directory This file is responsible for defining the metadata associated with your book:

- The book's title (title)
- The book's author (author)
- The publication date (pubdate)
- The canonical URL for the book (url)
- A markdown-formatted description of the book

If the README.md file or any of the entries are missing, default values will be used. The README.md file should be formatted as any other page, with the title, author, pubdate, and url specified in the frontmatter, and the book description the *Markdown* contents of the README.md file.

#### 4.1.1 Sample

author The author (or authors) who wrote the chapter (defaults to "Anonymous")

pubdate The RFC 33392 timestamp of when the chapter was published (defaults to the time at build)

url The relative URL of the file, defaults to the generated route (you probably shouldn't set this one)

2.3. PLANTUML DIAGRAMS

" Shell-Unix-Generic

TOML toml, tml, Cargo.lock, Gopkg.lock, Pipfile

Tcl tcl

TeX sty, cls

Textile textile

XML xml, xsd, xslt, tld, dtml, rss, opml, svg

YAML yaml, yml, sublime-syntax

camlp4 "

commands-builtin-shell-bash "

reStructuredText rst, rest

## 2.3 PlantUML Diagrams

If you have PlantUML<sup>9</sup> installed and available on your path, *mkbook* will try to render any code blocks with a language tag of plantuml as inline SVG images.

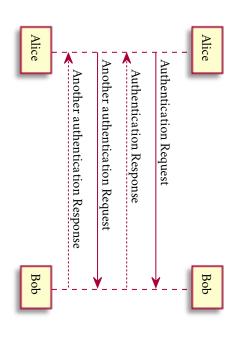
For example:

9http://plantuml.com/

<sup>2</sup>http://tools.ietf.org/html/rfc3339

```
?``plantuml
@startuml
Alice -> Bob: Authentication Request
Bob --> Alice: Authentication Response
Alice -> Bob: Another authentication Request
Alice <-- Bob: Another authentication Response
@enduml</pre>
```

is rendered as:



This feature is still experimental, but I find it handy for my books.

## 2.4 KaTeX (Math) Formulas

If you have KaTeX<sup>10</sup> installed and available on your path, *mkbook* will try to render any code blocks with a language tag of katex as inline math blocks.

For example:

#### Chapter 3

### **Front Matter**

Each .md file can optionally contain a header with metadata describing the document. If the header isn't present, or if any keys are missing, default values will be used.

To insert a header into a .md file, insert three dashes (---), followed by a new-line, followed by the front matter contents, followed by a newline, then another three dashes and a new-line. The metadata is in the TOML<sup>1</sup> format, so for example the front-matter (and first line) for a file could look like this:

```
title = "Front Matter"
author = "Kenton Hamaluik"
pubdate = 2019-11-29T15:22:00-07:00
---
Each `.md` file can optionally contain a header with metadata

→ describing the document. If the header isn't present, or if any

keys are missing, default values will be used.
```

### 3.1 Supported Keys

The list of supported keys is subject to change, but for now it is as follows:

title A human-readable title for the document (defaults to the filename)

<sup>10</sup>https://github.com/KaTeX/KaTeX

Ihttps://github.com/toml-lang/toml

15

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

is rendered as:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \tag{2.1}$$

This feature is still experimental, but I find it handy for my books.

#### 2.5 Images

To include an image, use the standard markdown format:

This will wrap the image in a figure with an associated figcaption containing the title of the image, as so:

![a bear](https://placebear.com/g/512/256 "A majestic bear")

will render as:



Figure 2.1: A majestic bear

CHAPTER 2. MARKDOWN

#### 2.6 **Tables**

16

Tables are created using the pipe syntax<sup>11</sup>, for example the following:

| zebra stripes | col 2 is | col 3 is      |     | Tables |
|---------------|----------|---------------|-----|--------|
| are neat      | centered | right-aligned | -:: | Are    |
| \$1           | \$12     | \$1600        | -   | Cool   |

renders as:

| zebra stripes | col 2 is | col 3 is      | Tables |
|---------------|----------|---------------|--------|
| are neat      | centered | right-aligned | Are    |
| \$1           | \$12     | \$1600        | Cool   |

#### 2.7 Task Lists

You can also use GFM<sup>12</sup>-style task lists<sup>13</sup> to indicate a TODO list:

- ☐ a task list item
- □ list syntax required
- □ normal formatting
- $\square$  incomplete
- ☑ completed

#### **2.8** Links

mkbook uses standard MarkDown notation for links:

[link text](link url)

Links can be separated into three types:

2.8. LINKS

17

1. External links (prepended by http://orhttps://)

2. Internal links (relative path names)

3. Reference links (prepended by ref:// and then followed by the chapter title) to refer to other chapters in the book\*\*

Note: Reference links aren't implemented yet!

<sup>11</sup>https://github.github.com/gfm/#tables-extension12https://help.github.com/en/github/writing-on-github
13https://github.blog/2013-01-09-task-lists-in-gfm-issues-pulls-comments/