

# Markdown Guide

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## Introduction

Welcome to a markdown guide. The aim to provide the general quirks of markdown; intended to be revisited as often as needed.

I tend to forget some specific markdown syntax; by which this guide provides a nice reference for. Also, writing this markdown guide in markdown is just wonderful.

## What is markdown?

Markdown is a markup language with plain text formatting syntax (basically better text). It converts plain text to HTML.

## Why use markdown?

- Markdown is incredibly lightweight compared to rich text formats; such as `.rtf` or `.docx`.
- It is arguably the simplest markup language there is.
- Can be converted to a plethora of formats seamlessly; such as `.html`, `.pdf`, `.docx`, etc. (which implies that `.md` files are essentially future-proof).

## Where is markdown used?

- Repositories such as [GitHub](#) (`README.md` files) for software documentation.
- Forums and blog posts within applications or websites.
- Static websites.
- Documents and notes.
- Email formatting.
- This markdown guide.

# Headings and Sub-headings

Prepending a # before some text promotes it to a heading. Prepending additional #'s demotes it to a sub-heading, sub-sub-heading and so on.

Adding one (or multiple) = below the text also promotes it to a heading. Use - for a sub-heading.

## Raw

```
# Heading
## Sub-heading
### Sub-sub-heading
#### Sub-sub-sub-heading
##### Sub-sub-sub-sub-heading
```

```
Also Heading
===
Also sub-heading
---
```

## Formatted

### Heading

#### Sub-heading

##### Sub-sub-heading

##### Sub-sub-sub-heading

##### Sub-sub-sub-sub-heading

### Also Heading

#### Also sub-heading

## Generic Formatting

## Raw

Paragraphs are separated by a blank line.

Two spaces at the end of a line

produce a line break.

Text attributes: `_italic_`, `*also italic*`, `**bold**`, `__also bold__`,  
``mono-space``, `~~strike-through~~`.

## Formatted

Paragraphs are separated by a blank line.

Two spaces at the end of a line  
produce a line break.

Text attributes: *italic*, *also italic*, **bold**, **also bold**, `mono-space`, ~~strike-through~~.

## Lists

A blank line between list elements (sometimes) produces a larger space between the elements.

## Raw

Unordered list:

- \* Fruits
  - Apples
  - Oranges
    - + Orange
    - Green

+ Meat

Subsequent indented paragraphs belong to the list element.

\* Dairy

```
...  
if(height<10cm){shortPerson.drinkMilk()}  
...
```

- Vegetables

Ordered list:

1. Uno
- 2) Dos
- 3) Tres
  
4. Cuatro

## Formatted

Unordered list:

- Fruits
  - Apples
  - Oranges
    - \* Orange
    - \* Green

- Meat

Subsequent indented paragraphs belong to the list element.

- Dairy

```
if(height<10cm){shortPerson.drinkMilk()}
```

- Vegetables

Ordered list:

1. Uno
- 2) Dos
- 3) Tres
  
4. Cuatro

## Links

### Raw

A [Wikipedia](https://www.wikipedia.org "Wikipedia Home")  
and [Google][identifier] hyper-link.

A <https://directlink.tv> and <directlink@email.org>.

[identifier]: <https://www.google.com> "Google Home"

## Formatted

A [Wikipedia](#) and [Google](#) hyper-link.

A <https://directlink.tv> and [directlink@email.org](mailto:directlink@email.org).

## Horizontal Rule

Horizontal rules are not used that often.

### Raw

Horizontal rule:

---

Also horizontal rule:

---

Also also horizontal rule:

\*\*\*

## Formatted

Horizontal rule:

---

Also horizontal rule:

---

Also also horizontal rule:

---

## Images

Text within the quotes after the image directory is the text displayed when the image directory is not found.

## Raw

```
![Markdown Icon](../images/markdown-icon.png "Markdown Icon"){ height=100% }
```

## Formatted



Figure 1: Markdown Icon

## Block-quotes

Prepend a > in every line of the block for a block-quote.

## Raw

```
> Append two space in first line  
> for a line-break in block-quote.  
>  
> Second paragraph in block-quote.  
>  
>> Deeper block-quote with additional `>`.
```

```
>>
>>> Even deeper block-quote.
>>>
```

## Formatted

Append two space in first line  
for a line-break in blockquote.

Second paragraph in blockquote.

Deeper blockquote with additional >.

Even deeper blockquote.

## Code-blocks

Surround the block with three `’s or three ~’s (above and below the block).

Optionally append the first line with the name of the defined language for syntax highlighting.

A code-block can also be formed with a prepended tab (four spaces) in each line.

## Raw

```
```Python
# A code-block
import numpy as np
def func(x):
    """Returns sin squared of a number."""
    assert type(x) in (int,float)
    return np.sin(x)**2
if __name__ == '__main__':
    pass
```

~~~C++
// Another code-block
for(int i=0;i++;i<42){
    Serial.println(i);
}
~~~

    free(malloc(69))
    malloc(free(42))
```

## Formatted

```
# A code-block
import numpy as np
def func(x):
    """Returns sin squared of a number."""
    assert type(x) in (int,float)
    return np.sin(x)**2
if __name__ == '__main__':
    pass

// Another code-block
for(int i=0;i++;i<42){
    Serial.println(i);
}

free(malloc(69))
malloc(free(42))
```

## Comments

### Raw

<Comment>

<!--

Comment

-->

[//]: # (This is the most platform independent syntax.)

[///]: # (This will not be included in the output file.)

## Formatted

## Footnotes

### Raw

Text<sup>[^footnote-identifier]</sup> with a footnote<sup>[^long-footnote]</sup>  
and inline<sup>[^You do not have to create an identifier.]</sup>.

<sup>[^footnote-identifier]</sup>: Footnote information.



[<sup>^</sup>long-footnote]: Footnote with multiple blocks.

Subsequent indented paragraphs belong to the footnote.

```
code.isNone() == True
```

## Formatted

Text<sup>1</sup> with a footnote<sup>2</sup> and inline<sup>3</sup>.

## LaTeX

Surround LaTeX code with double \$.

## Raw

```
$$\frac{some}{69}\cdot\frac{420}{LaTeX}$$
```

## Formatted

$$\frac{some}{69} \cdot \frac{420}{LaTeX}$$

## Tables

Generally and unfortunately, for some table styles, you cannot directly set the column width; unless you perform some wonky stuff with its behaviour.

## Raw

```
Left	Centre	Right
1,1	1,2	1,3
2,1	2,2	2,3
3,1	3,2	3,3
4,1	4,2	4,3
```

---

<sup>1</sup>Footnote information.

<sup>2</sup>Footnote with multiple blocks.

Subsequent indented paragraphs belong to the footnote.

```
code.isNone() == True
```

<sup>3</sup>You do not have to create an identifier.

Table: Pipe Table

## Formatted

Table 1: Pipe Table

| Left | Centre | Right |
|------|--------|-------|
| 1,1  | 1,2    | 1,3   |
| 2,1  | 2,2    | 2,3   |
| 3,1  | 3,2    | 3,3   |
| 4,1  | 4,2    | 4,3   |

## Pandoc Tables

### Raw

| Left | Centre | Right |
|------|--------|-------|
| 1,1  | 1,2    | 1,3   |
| 2,1  | 2,2    | 2,3   |
| 3,1  | 3,2    | 3,3   |
| 4,1  | 4,2    | 4,3   |

: Simple Table

|     |     |     |
|-----|-----|-----|
| 1,1 | 1,2 | 1,3 |
| 2,1 | 2,2 | 2,3 |
| 3,1 | 3,2 | 3,3 |
| 4,1 | 4,2 | 4,3 |

: Header-less Simple Table

|               |         |         |
|---------------|---------|---------|
| Left          | Centre  | Right   |
| Aligned       | Aligned | Aligned |
| This sentence | 1,2     | 1,3     |

spans two lines

2,1                      2,2              Note the the blank  
   line between rows.

: Multi-line Table

: Grid Table

|                      |  |
|----------------------|--|
| +-----+-----+        |  |
| Default      Default |  |
| +=====+=====+        |  |
| - 0.33,1       1,2   |  |
| - 0.67,1             |  |
| +-----+-----+        |  |
| - 1.33,1       2,2   |  |
| - 1.67,1             |  |
| +-----+-----+        |  |

: Piped Grid Table

|                     |  |  |
|---------------------|--|--|
| +----+-----+-----+  |  |  |
| Left Centre Right   |  |  |
| +:===+:====+:====+: |  |  |
| 1,1   1,2   1,3     |  |  |
| +----+-----+-----+  |  |  |
| 2,1   2,2   2,3     |  |  |
| +----+-----+-----+  |  |  |
| 3,1   3,2   3,3     |  |  |
| +----+-----+-----+  |  |  |
| 4,1   4,2   4,3     |  |  |
| +----+-----+-----+  |  |  |

: Header-less Grid Table

|                     |  |  |
|---------------------|--|--|
| +:---+:----+:----+: |  |  |
| 1,1   1,2   1,3     |  |  |
| +----+-----+-----+  |  |  |
| 2,1   2,2   2,3     |  |  |
| +----+-----+-----+  |  |  |

```
|3,1 | 3,2 | 3,3|
+---+---+---+
|4,1 | 4,2 | 4,3|
+---+---+---+
```

## Formatted

Table 2: Simple Table

| Left | Centre | Right |
|------|--------|-------|
| 1,1  | 1,2    | 1,3   |
| 2,1  | 2,2    | 2,3   |
| 3,1  | 3,2    | 3,3   |
| 4,1  | 4,2    | 4,3   |

Table 3: Header-less Simple Table

|     |     |     |
|-----|-----|-----|
| 1,1 | 1,2 | 1,3 |
| 2,1 | 2,2 | 2,3 |
| 3,1 | 3,2 | 3,3 |
| 4,1 | 4,2 | 4,3 |

Table 4: Multi-line Table

| Left Aligned                     | Centre Aligned | Right Aligned                            |
|----------------------------------|----------------|--|
| This sentence spans<br>two lines | 1,2            | 1,3                                      |
| 2,1                              | 2,2            | Note the the blank line<br>between rows. |

Table 5: Grid Table

| Default  | Default |
|----------|---------|
| • 0.33,1 | 1,2     |
| • 0.67,1 |         |
| • 1.33,1 | 2,2     |
| • 1.67,1 |         |

Table 6: Piped Grid Table

| Left | Centre | Right |
|------|--------|-------|
| 1,1  | 1,2    | 1,3   |
| 2,1  | 2,2    | 2,3   |
| 3,1  | 3,2    | 3,3   |
| 4,1  | 4,2    | 4,3   |

Table 7: Header-less Grid Table

|     |     |     |
|-----|-----|-----|
| 1,1 | 1,2 | 1,3 |
| 2,1 | 2,2 | 2,3 |
| 3,1 | 3,2 | 3,3 |
| 4,1 | 4,2 | 4,3 |

## Line-block

Prepend a | in each line of the line-block.

This allows new lines without an empty line between each line, which is useful for verses and addresses.

## Raw

```
| An iconic lullaby:
|   Twinkle twinkle little star,
|   how I wonder what you are.
|   Up above the world so high,
|   like a diamond in the sky.
|   Twinkle twinkle little star,
|   how I wonder what you are.
```

## Formatted

```
An iconic lullaby:
    Twinkle twinkle little star,
    how I wonder what you are.
    Up above the world so high,
    like a diamond in the sky.
    Twinkle twinkle little star,
    how I wonder what you are.
```

## Task-list

### Raw

- [x] Done.
- [ ] Not done.

### Formatted

- ☒ Done.
- ☐ Not done.

## Superscripts and Subscripts

Surround literals between ~ for a subscript. Very useful in [chemical formulae](#).

Conversely, surround literals between ^ for a superscript.

### Raw

H~2~O is one of the main reasons to why life exists.

f(x) = Ae^-bx^ describes exponential decay.

### Formatted

H<sub>2</sub>O is one of the main reasons to why life exists.

$f(x) = Ae^{-bx}$  describes exponential decay.

## Line-break

### Raw

\

### Formatted

## Definition-list

### Raw

Term

```
: This is a definition.  
: This is an alternate definition.
```

### Formatted

**Term** This is a definition.  
This is an alternate definition.

## Compiling

I mainly use [ghostwriter](#) and [Pandoc](#).

Most text-editors should have support for markdown. Most IDE's should have plugins to view formatted markdown in real-time.

### ghostwriter

- Can choose Markdown Flavor and Style Sheet for HTML preview.
- Can see Outline HUD and Documents Statistics HUD; and can use `ctrl + shift + h` to remove or show them.
- Can Insert Image by dragging in an image.
- Can Copy HTML with `ctrl + shift + c`.
- Can Export directly.
- Can use Distraction Free Mode with no HUD and no HTML preview.

### Pandoc

- To HTML example snippet: `pandoc markdown-guide.md -o markdown-guide.html -s --mathjax`.
- To PDF example snippet: `pandoc markdown-guide.md -o markdown-guide.pdf --pdf-engine=pdflatex`.
- To Beamer example snippet: `pandoc markdown-guide.md -o markdown-slide.pdf -t beamer -V theme:Luebeck`. Note: Beamer does not like footnotes that take more than the available space (hence make sure that this is satisfied before converting to beamer); also it is best remove any geometry tags and decrease the font size as well.
- `-s` means standalone and not a fragment; e.g. an HTML file with `head` and `body`.
- `-f` and `-t` specifies input and output format respectively (markdown, latex, html), otherwise format is interpreted from file type.

- `--toc` for table of contents; useful with `-c style.css`.
- Make modifications to `latex-template.tex` from `pandoc -D latex >> latex-template.tex`, and then use `--template=latex-template.tex`.
- Can concatenate multiple input files.

## Adding References

1. Add a `.bib` file into a directory, and optionally a `.cs1` file.
  - [Here](#) is a link in formatting the `.bib` file.
  - [Here](#) is a link for `.cs1` files for citation standards.
2. Within your markdown document, append `@` with the unique citation-key declared in the `.bib` file, to add references.
3. Add the `-C` or `--cite-proc` argument when compiling, to process the citations.
4. Add the `--bibliography=<file-name>.bib` argument to specify the path to the file (replace `<file-name>`).
5. Optionally add the `--cs1=<file-name>.cs1` argument to specify a certain citation style.

### Raw

This is a self reference. [`@puth-mdg`]

### Formatted

This is a self reference. [1]

## Explore

- Labels
- Images
- [Citations](#)
- Citation Syntax

## References

- [1] P. Aim, “Markdown guide,” 2022. [Online]. Available: <https://github.com/puth2314/markdown-guide>