

anti-matter

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<https://github.com/tingerrr/anti-matter>

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ABSTRACT

This packages automatically numbers the front and back matter of your document separately from the main content. This is commonly used for books and theses.

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I INTRODUCTION

A document like this:

```
#import "@preview/anti-matter:0.1.0": anti-matter, fence, set-numbering

#set page("a4", height: auto)
#show heading.where(level: 1): it => pagebreak(weak: true) + it

#show: anti-matter

#set-numbering(none)
#align(center)[My Title Page]
#pagebreak()
#set-numbering("I")

#include "front-matter.typ"
#fence()

#include "chapters.typ"
#fence()

#include "back-matter.typ"
```

Would generate an outline like this:

Contents

Contents	I
Figures	II
Tables	III
Listings	IV
1. Chapter	1
1.1. Section	1
1.1.1. Subsection	1
2. Chapter	2
2.1. Another Section	2
3. Chapter	3
Glossary	V
Appendix	VI
Acknowledgement	VII

I

The front matter (in this case the outlines) are numbered using "I", the content starts new at "1" and the back matter (glossary, acknowledgement, etc) are numbered "I" again, continuing from where the front matter left off.

II How it works & caveats

anti-matter keeps track of its own inner and outer counter, which are updated in the header of a page. Numbering at a given location is resolved by inspecting where this location is between the given fences and applying the expected numbering to it. Both `page.header` and `outline.entry` need some special care if you wish to configure them. While `page.header` can simply be set in anti-matter, if you want to set it somewhere else you need to ensure that the counters are stepped. Likewise `outline.entry` or anything that displays page numbers for elements needs to get the page number from anti-matter.

Numbering

Numbering is done as usual, with a string or function, or none. If the numbering is set to none then the counter is not stepped. Patterns and functions receive the current and total value. Which means that "1 / 1" will display "3 / 5" on the third out of five pages. Because none skips stepping it can be used to easily add a title page beforehand, without having to reset the page counter.

```
#import "@preview/anti-matter:0.1.0": anti-matter, fence, set-numbering
#show: anti-matter(numbering: ("I", numbering.with("1 / 1"), none))

#set-numbering(none)
#align(center + horizon)[Title]
#pagebreak()
#set-numbering("I")

// page numbering starts at "I"
// ...
```

Fences

For anti-matter to know in which part of the document it is, it needs exactly 2 fences, these must be placed on the last page of the front matter and the last page of the main content. Make sure to put them before your page breaks, otherwise they'll be pushed onto the next page. Fences are placed with `fence()`.

```
#import "@preview/anti-matter:0.1.0": anti-matter, fence
#show: anti-matter

// front matter
#lorem(1000)
#fence()

// content
#lorem(1000)
#fence()

// back matter
#lorem(1000)
```

Page header

anti-matter uses the page header to step its own counters. If you want to adjust the page header sometime after the anti-matter show rule, you have to add `step()` before it.

```
#import "@preview/hydra:0.2.0": hydra
#import "@preview/anti-matter:0.1.0": anti-matter, step
#show: anti-matter
```

```
// ...  
  
#set page(header: step() + hydra())  
  
// ...
```

Outline entries and querying

By default outline will use the regular page counter to resolve the page number. If you want to configure the appearance of outline but still get the correct page numbers use `page-number` with the element location.

```
#import "@preview/anti-matter:0.1.0": anti-matter, page-number  
#show: anti-matter  
  
// render your own outline style while retaining the correct page numbering for queried  
elements  
#show outline.entry: it => {  
  it.body  
  box(width: 1fr, it.fill)  
  page-number(loc: it.element.location())  
}  
  
// ...
```

The same logic applies to other things where elements are queried and display their page number.

III API-REFERENCE

anti-matter

The public and stable library API intended for regular use.

- `anti-matter()`
- `fence()`
- `page-number()`
- `set-numbering()`
- `step()`

anti-matter

A template function which applies the page numbering and a show rule for `outline.entry` to fix its page numbering. If you need more granular control over outline entries and page headers see the library documentation. This should be used as a show rule.

Parameters

```
anti-matter(  
  header: content none,  
  numbering: array,  
  label: label,  
  body: content  
) -> content
```

header `content` or `none`

the page header to display

Default: `none`

numbering `array`

an array of numberings describing the numberings for each part of your document, the numberings can be a str, function or none, functions receive the current and final amount as arguments

Default: `("I", "1", "I")`

label `label`

the label to use for document fences

Default: `<anti-matter:fence>`

body `content`

the content to render with anti-matter numbering

fence

Mark the end of a part of your document, place this on the last page of your current part. This must be put into the document exactly twice.

Parameters

```
fence(label: label) -> content
```

label label

the label to use for the fences

Default: `<anti-matter:fence>`

page-number

Returns and formats the page number for the given location.

If `passthrough` is `true` and `loc` is not `none`, then a dictionary is returned which contains the current and last number, as well as whether the numbering was `none` at this location. If the numbering was `none`, then the current number is from the last page with numbering.

Parameters

```
page-number(  
  passthrough: bool,  
  loc: location | none  
) -> (content array | none)
```

passthrough bool

if `false` the page number is not formatted and instead the numbers are returned directly

Default: `false`

loc location or none

the location at which to get the numbers for

Default: `none`

set-numbering

Set the numbering for the current part.

Parameters

```
set-numbering(numbering: str | function | none) -> content
```

numbering str or function or none

the new numbering for the current part

step

Step the anti-matter counter for the current part.

-> content

Parameters

`step()`

core

The core API, used for querying internal state, public, but not stable.

- `inner-counter()`
- `numbering-state()`
- `outer-counter()`
- `part()`
- `select()`

inner-counter

Get the counter which keeps track of the inner page number.

-> counter

Parameters

`inner-counter()`

numbering-state

Get state which keeps track of numbering patterns.

Parameters

```
numbering-state(  
  label: label,  
  numbering: array  
) -> counter
```

label `label`

the label which is used for document fences

Default: `<anti-matter:fence>`

numbering `array`

the default numberings to start with

Default: `("I", "1", "I")`

outer-counter

Get the counter which keeps track of the outer page number.

-> counter

Parameters

`outer-counter()`

part

Retrieve the part at the given location.

Parameters

`part(loc: location) -> str`

loc `location`

the location at which to get the part for

select

Select the counter and numbering index for the given part.

Parameters

`select(part: str) -> (array none)`

part `str`

the part for which to get the numbering for (must be one of front, inner, back)

rules

Show and set rules which are applied in anti-matter, provides default versions to turn of rule.

- `outline-entry()`

outline-entry

A function which displays an `outline.entry` using its default show rule *with* the given page numbering function.

This can be used with its default parameters to revert the outline show rule in anti-matter.

- `entry (outline.entry)`: the outline entry to display
- `func: (function)`: transforms a location to a page number

-> content

Parameters

```
outline-entry(  
  entry,  
  func  
)
```

entry

func

Default: `loc => loc.page()`