

# **anti-matter**

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

**tinger** <me@tinger.dev>

## **ABSTRACT**

This packages automaticall numbers the front and back matter fo 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  |
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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 need to resolve 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.

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

### 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

// ...
// after front 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 that applies the page numbering and a show rule for `outline.entry` to fix it's 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

a label to use for the fence

Default: `<anti-matter:fence>`

## page-number

Returns the number for the given

## Parameters

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

**passthrough**    bool

if false the page number is not formatted and instead passed directly

Default: `false`

**loc**    location or none

the location at which to get the part 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 the counter which keeps track of the outer page number.

## 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 numbering 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
```

**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-default\(\)](#)

### **outline-entry**

A function which displays an `outline.entry` using its default show rule *with* anti-matter page numbering.

- entry (`outline.entry`): the outline entry to display

-> content

### **Parameters**

```
outline-entry(entry)
```

**entry**

### **outline-entry-default**

A function which displays an `outline.entry` using its default show rule *without* anti-matter page numbering.

- entry (`outline.entry`): the outline entry to display

-> content

### **Parameters**

```
outline-entry-default(entry)
```

**entry**