# **Itemize**

ver0.2.0

https://github.com/tianyi-smile

A typst package for users to easily customize and format enumerations and lists.

### **Contents**

1	Ove	rview	2
2	Bas	c Features and Model Introduction	3
	2.1	Features	3
	2.2	Main Methods	
		2.2.1 Two Styles of enum-list	
		2.2.2 Enum Numbering References	
		2.2.3 Resuming Enum Numbering	
		2.2.4 Terms-like Functionality	
	2.2	2.2.5 Checklist	
2		ailed Feature Introduction	
)		*-enum-list Methods	
	3.1		12
		3.1.1 Horizontal Spacing Settings: indent, body-indent, label-indent, enum-margin	
		(is-full-width)	
		3.1.2 Vertical Spacing Settings: item-spacing, enum-spacing	13
		3.1.3 Label Formatting Settings:args(text-style), label-align, label-baseline, label-widt	:h,
		label-format	13
		3.1.4 Body formatting settings: hanging-indent, line-indent, body-format	20
		3.1.5 auto-label-width	22
		3.1.6 Passing array to Parameters	24
		3.1.7 Passing function to Parameters	25
		3.1.8 enum-config and list-config	27
		3.1.9 auto-base-level	28
	3.2	Referencing Enum Numbers	31
	3.3	Resuming Enum	32
	3.4	Terms-like Functionality	35
	3.5	Checklist	36
	3.6	Enhancements to list.marker	41
	3.7	*-enum and *-list Methods	42
	3.8	Set-Rule	43
	3.9	Experimental Features	
		3.9.1 Clearing Recorded Information in resuming enum	
		3.9.2 Customizing Body Formatting	
4	Cha	ngelog and All Features	47

## 1 Overview

The <u>itemize</u> package allows users to easily customize and format enumerations and lists. To use this package, include the following at the beginning of your document:

```
1 #import "@preview/itemize:0.2.0" as el typst
```

Use the method default-enum-list to override the native behavior of enum and list by adding the following at the beginning of your document:

```
1 #show: el.default-enum-list (typst)
```

Now you can use enum and list as usual. Below is a comparison.

```
1 #let item-test = [
                                                                                                                 typ
2
     + one $vec(1, 1, 1)$
3
4
          x^2 + y^2 = z^2
5
6
     + #rect(height: 2em, width: 2em) #lorem(2)
7
     + #block(stroke: 1pt)[two $vec(1, 1, 1,)$]
     +  (a + b)^2 = a^2 + 2a b + b^2 $
8
     + + #lorem(2)
     + - #lorem(2)
11
    - #lorem(2)
12 ]
13 #table(
14
     columns: (1fr, 1fr),
15
    [native], [itemize],
16
17
     #item-test
18
     ],
19
       #show: el.default-enum-list
21
     #item-test
22
     ],
23 )
                                                            itemize
native
  one
                                                            1. one
        x^2 + y^2 = z^2
                                                                                   x^2 + y^2 = z^2
2.
   Lorem ipsum.
                                                              Lorem ipsum.
        1
                                                                   1
                                                              two
                                                            4.
                                                                              (a+b)^2 = a^2 + 2ab + b^2
4. (a+b)^2 = a^2 + 2ab + b^2
5. 1. Lorem ipsum.
                                                            5. 1. Lorem ipsum.
6. • Lorem ipsum.
                                                            6. • Lorem ipsum.
   · Lorem ipsum.
                                                              · Lorem ipsum.
```

## 2 Basic Features and Model Introduction

#### 2.1 Features

The itemize package currently offers the following features:

- 1. Compatibility with native enum and list behaviors in most cases, along with fixes for certain native bugs (or providing alternative choices), such as typst/issue#1204 and typst/issue#529.
- 2. Customization of enum and list labels and bodies by level and item:
  - Horizontal spacing settings: indent, body-indent, label-indent, enum-margin (is-full-width).
  - Vertical spacing settings: item-spacing, enum-spacing.
  - Label formatting settings: ..args(text-style), label-align, label-baseline, label-width.
    - Customize labels in any way: label-format.
  - Alignment styles for labels between items: auto-label-width.
  - Body formatting settings: hanging-indent, line-indent.

- Set text and border styles for the body: body-format.
- Enhanced enum features:
  - Reference functionality for enum numbering.
  - Resume functionality for enum numbering.
- Enhanced list features:
  - Terms-like functionality: Temporarily change the marker of the current item using the item method.
  - Checklist (similar to the cheq package).

#### 2.2 Main Methods

default-style

The package itemize primarily provides the following methods:

#### 2.2.1 Two Styles of enum-list

- default-style (Typst's native style): default-enum-list, default-enum, default-list
- paragraph-style: paragraph-enum-list, paragraph-enum, paragraph-list

By default, the default-\* methods indent paragraphs after the label, while the paragraph-\* methods align paragraphs with the label. See the example below:

```
1 #set enum(numbering: "(A).(I).(i)")
                                        typ
2 #show: el.default-enum-list
```

(A) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

(I) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

- (II) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (B) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- adipiscing elit, sed do.

paragraph-style

- 1 #set enum(numbering: "(A).(I).(i)")
- 2 #show: el.paragraph-enum-list
- (A) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

(I) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

- (II) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (B) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- · Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - ▶ Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (A) (I) ► Lorem ipsum dolor sit amet, consectetur (A) (I) ► Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

The differences between \*-enum-list, \*-enum, and \*-list are:

\*-enum-list can uniformly configure both enum and list, while allowing separate configuration through parameters:

- enum-config for enumlist-config for list
- \*-enum only configures enum, leaving nested list styles unchanged
- \*-list only configures list, leaving nested enum styles unchanged

For details, see Section 3.1.

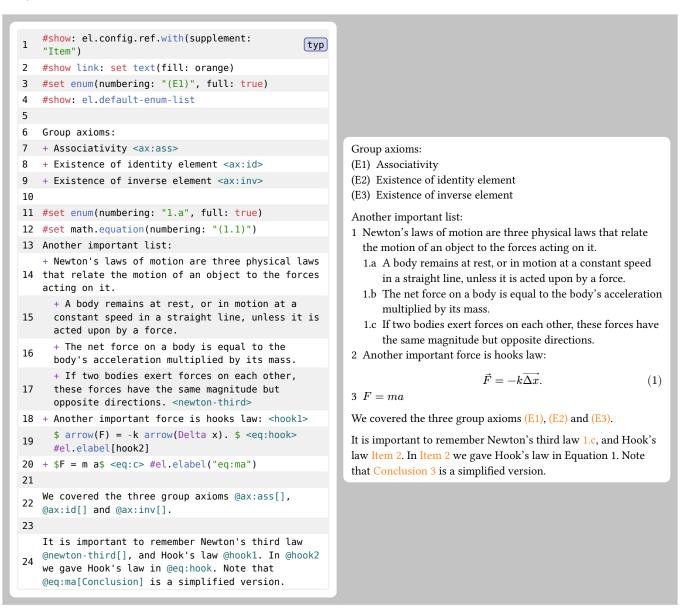
#### 2.2.2 Enum Numbering References

To enable this feature, add the following at the beginning of your document:

```
1 #show: el.config.ref typst
```

In the enum items you want to reference, label them with <some-label>, and then use @some-label to reference the enum number of that item.

Example (taken from: https://github.com/typst/typst/issues/779#issuecomment-2702268234 with minor modification)



- Note. For the label <hook2>, you cannot directly write <hook2>, as this would label <hook2> to the equation.

  Use the method elabel to label it. The same applies to eq: c.
- The method elabel(<some-label>) is equivalent to elabel("some-label"), and can sometimes be written as elabel[some-label] (provided the latter can be parsed as a string).

For more details, see Section 3.2.

#### 2.2.3 Resuming Enum Numbering

- To enable this feature, set the auto-resuming parameter to auto in \*-enum-list (or \*-enum).

   Note: This feature cannot be nested. Do not set auto-resuming to auto within another.
- Use the method resume() to continue using the enum numbers from the previous enum at the same level.



- 1. Lorem ipsum dolor sit amet.
  - 1. Lorem ipsum dolor sit amet.
  - 2. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

- 2. Lorem ipsum dolor sit amet.
  - 3. Lorem ipsum dolor sit amet.
  - 4. Lorem ipsum dolor sit amet.
- 3. Lorem ipsum dolor sit amet.
  - 1. 1. Lorem ipsum dolor sit amet.

typst

- Alternatively, use resume-label(<some-label>) to label the enum to resume, then use resume-list(<some-label>) in the desired enum to continue numbering.
  - ▶ If the following is added to the document:

1 #show: el.config.ref-resume

You can use @some-label instead of resume-list(<some-label>).



- 1. Lorem ipsum dolor sit amet.
  - 1. Lorem ipsum dolor sit amet.
  - 2. Lorem ipsum dolor sit amet.
  - Lorem ipsum dolor sit amet.
  - 3. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

4. Lorem ipsum dolor sit amet.

Alternatively, use auto-resume-enum(auto-resuming: true)[...] to ensure all enum items within [...] continue numbering from the previous items. For example: #let resume-enum(doc) = el.default-enumtyp list(auto-resuming: auto)[ #el.auto-resume-enum(auto-resuming: true, 2 1. Lorem ipsum dolor sit amet. 3 ] 1. Lorem ipsum dolor sit amet. #resume-enum[ 4 2. Lorem ipsum dolor sit amet. 5 + #lorem(5) 1. Lorem ipsum dolor sit amet. 6 + #lorem(5) ▶ Lorem ipsum dolor sit amet. 7 + #lorem(5) 3. Lorem ipsum dolor sit amet. + #lorem(5) 2. Lorem ipsum dolor sit amet. 9 - #lorem(5) 10 + #lorem(5) Lorem ipsum dolor sit amet. 11 + #lorem(5) 2. Lorem ipsum dolor sit amet. 12 #lorem(5) 13 + #lorem(5) 14 ]

#### 2.2.4 Terms-like Functionality

Now, you can use the item method within a list to temporarily change the marker of the current item. For example:

```
1 #show: el.default-enum-list
2 - #el.item[#sym.ast.square] #lorem(2)
3 - #el.item[①] #lorem(2)

Lorem ipsum.
① Lorem ipsum.
```

#### 2.2.5 Checklist

To enable this feature, set the checklist parameter to true in \*-enum-list (or \*-list), for example:

1 #show: el.default-enum-list.with(checklist: true)

Now you can use:

1 #show: el.default-enum-list.with(checklist: typ)
2 - [x] checked #lorem(2)
3 - [] unchecked #lorem(2)
4 - [/] incomplete #lorem(2)
5 - [-] canceled #lorem(2)

Alternatively, you can enable and configure checklist-related features using the config.checklist method:

1 #show: el.config.checklist typst

2 #show: el.default-enum-list
3 - [x] checked #lorem(2)
4 - [] unchecked #lorem(2)
5 - [/] incomplete #lorem(2)

- canceled Lorem ipsum.

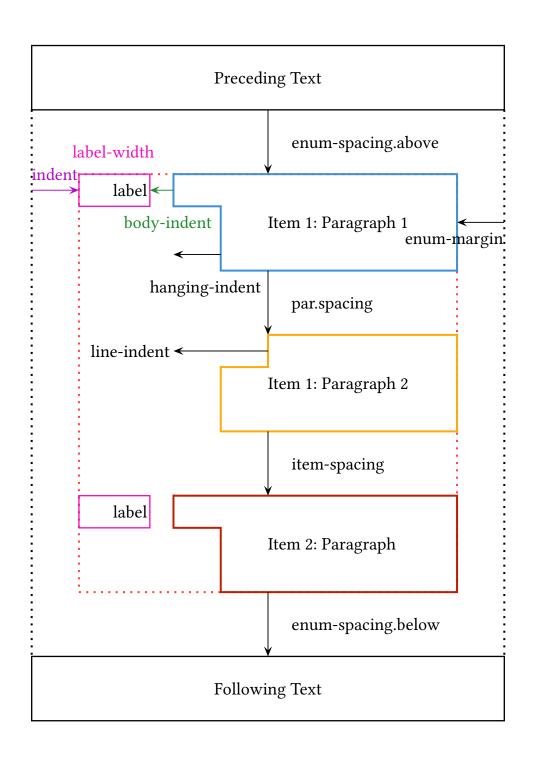
6 - [-] canceled #lorem(2)

For related configuration methods, see Section 3.5.

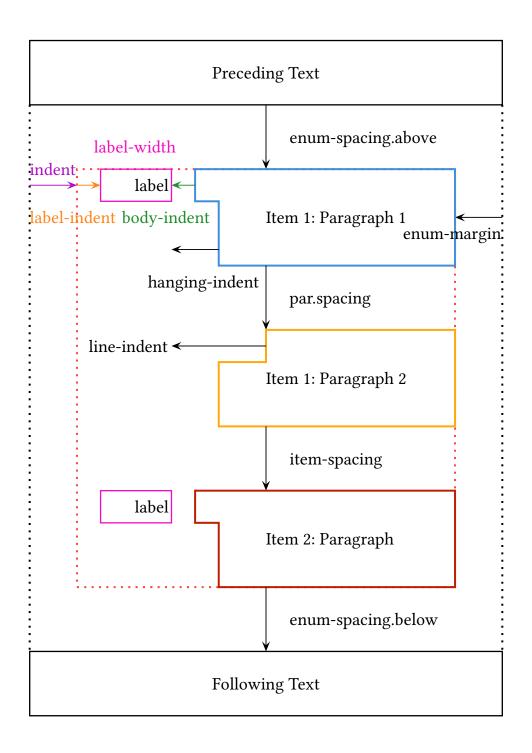
## 2.3 Model

The diagram below illustrates the model for <code>enum</code> and <code>list</code> in <code>itemize</code>.

- enum and list consist of multiple items.
- Each item is composed of a label and a body:
  - ▶ label: The enum number or list marker.
  - **body**: The content following the label.
- Level (level): Starts from 1, and increments if an item contains nested items.
- Item index (n): Starts from 1. The position of items in the same level.



default-enum-list



The label-indent of default-enum-list

#### Code Example:

```
1
   #set align(center)
                                                                                                                  typ
2
   #set par(justify: true)
3
   #block(width: 60%, stroke: 1pt + red, inset: 5pt)[
4
     #set align(left)
5
     #show: el.default-enum-list.with(
6
        indent: 1em,
7
       label-align: right,
8
        label-width: 3em,
9
        body-indent: 1em,
10
        hanging-indent: 2em,
11
       line-indent: 4em,
12
        is-full-width: false,
       enum-margin: 4em,
13
        enum-spacing: 3em,
14
15
        item-spacing: 2.5em,
16
17
     Preceding Text. #lorem(30)
18
     1. Item 1: Paragraph 1. #lorem(30)
19
20
        Paragraph 2. #lorem(30)
21
22
23
      100. Item 2. #lorem(30)
24
25
     Following Text. #lorem(30)
26 ]
```

Preceding Text. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

 Item 1: Paragraph 1. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

Paragraph 2. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

100. Item 2. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

Following Text. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri.

#### 3 Detailed Feature Introduction

#### 3.1 \*-enum-list Methods

The parameters for default-enum-list and paragraph-enum-list are similar. The following examples focus on default-enum-list.

```
#let default-enum-list(
                                                                                          typst
2
     doc: any,
3
     // horizontal spacing
     indent: array | auto | function | length = auto,
4
5
     body-indent: array | auto | function | length = auto,
     label-indent: array | auto | function | length = auto,
6
     is-full-width: bool = true,
7
     enum-margin: array | auto | function | length = auto,
8
     // vertical spacing
10
     enum-spacing: array | auto | dictionary | length = auto,
11
     item-spacing: array | auto | function | length = auto,
12
     // body style
13
     hanging-indent: array | auto | function | length = auto,
14
     line-indent: array | auto | function | length = auto,
15
     body-format: dictionary | none = none,
16
     // label style
17
     ..args: arguments,
18
     label-align: array | alignment | auto | function = auto,
     label-baseline: auto | dictionary | function | length | "center" | "top" | "bottom" =
19
     auto,
20
     label-width: array | auto | dictionary | function | length = auto,
21
     label-format: array | function | none = none,
22
23
     auto-base-level: bool = false,
24
     checklist: array | bool = false,
25
     auto-resuming: auto | bool | none = none,
     auto-label-width: array | bool | "all" | "each" | "list" | "enum" | auto | none | =
26
     none,
     // separate setting of enum and list
27
28
     enum-config: dictionary = (:),
29
     list-config: dictionary = (:),
30 )
```

This method allows customizing the *labels* and *bodies* of enums and lists by **level** and **item**.

#### 3.1.1 Horizontal Spacing Settings: indent, body-indent, label-indent, enum-margin (is-full-width)

- indent, body-indent: Control the **enum and list indentation** and **spacing** between the label and body for each level. Unless auto is used, these spacings cannot be changed via #set enum or #set list.
- is-full-width: Default is true, setting the body width to 100%. This may temporarily fix the bug where block-level equations in the item are not center-aligned in some cases (not an ideal solution).

enum-margin: Controls the **right margin** for each level of enum and list. For this parameter to take effect, set is-full-width to false. If auto, the item width for the current level is auto (native enum and list behavior).

#### 3.1.2 Vertical Spacing Settings: item-spacing, enum-spacing

- enum-spacing: Controls the spacing above and below enum and list. Can be
  1. a length (same spacing above and below)
  2. or a dictionary with form (above: len1, below: len2).
- item-spacing: Controls the **spacing between items** for each level.
- label-indent: Sets the **indentation** for the first line of an item. Refer to Section 2.3.

## 3.1.3 Label Formatting Settings: ..args(text-style), label-align, label-baseline, label-width, label-format

..args: Allows passing any named arguments of text to format the text style of label. Unless auto is used, the text style of label cannot be changed via #set text.

```
1 #show: el.default-enum-list.with(
2 fill: (red, purple, auto), // level 1: red,
level 2: purple, others: current text color
3 size: 1.2em,
4 weight: "bold",
5 )
6 #set text(fill: blue)
7 + #lorem(5)
8 + + #lorem(5)
9 + #lorem(5)
1. Lorem ipsum dolor sit amet.
2. Lorem ipsum dolor sit amet.
```

label-align: The alignment that enum numbers and list markers should have. Unless auto is used, it cannot be changed via #set enum(number-align: ...). For native list, it has no such property (default is right).

```
#show: el.default-enum-list.with(label-
align: center)
2 + #lorem(5)
3 100. #lorem(5)
4 - #lorem(5)
5 - #el.item[-] #lorem(5)
6 + #lorem(5)
1. Lorem ipsum dolor sit amet.
100. Lorem ipsum dolor sit amet.

- Lorem ipsum dolor sit amet.
101. Lorem ipsum dolor sit amet.
102. Lorem ipsum dolor sit amet.
103. Lorem ipsum dolor sit amet.
104. Lorem ipsum dolor sit amet.
105. Lorem ipsum dolor sit amet.
106. Lorem ipsum dolor sit amet.
107. Lorem ipsum dolor sit amet.
108. Lorem ipsum dolor sit amet.
109. Lorem ipsum d
```

```
label-baseline: An amount to shift the label baseline by. It can be taken

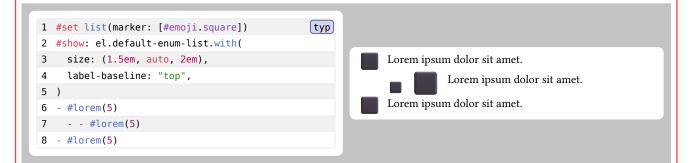
1. length, auto or "center", "top", "bottom"

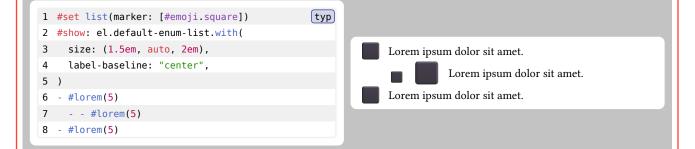
2. or a dictionary with the keys:

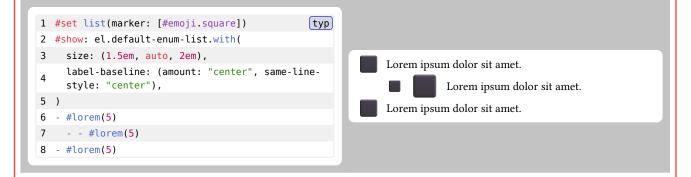
| amount: length, auto or "center", "top", "bottom"

| same-line-style: "center", "top", "bottom"
```

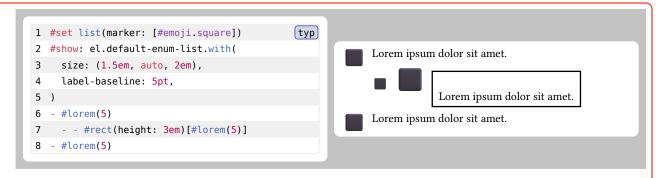
- alone: bool
- The first case is interpreted as (amount: len, same-line-style: "bottom", alone: false)
- When the label has a paragraph relationship with the first line of text in the current item, the label baseline will shift based on the value of amount.
  - For "center", "top", and "bottom", the label will be aligned to the center, top, or bottom respectively.
    - Note. We use the height of the first character (e.g., [A]) in the first line of the paragraph where the label is located. If you manually set the font style of the paragraph's text, this alignment may not be accurate, It is recommended to use the style parameter in body-format for adjustments.
  - When the value of amount is auto, set it to Opt.
  - If labels from different levels appear on the same line, their alignment is determined by same-line-style.
- If alone is true, it will not participate in the alignment of labels on the same line.



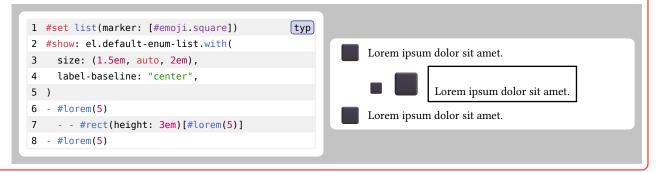




- Note. This is different for the text-style baseline.
- Note. These settings generally only apply when the label has a paragraph relationship with the first line of text in the current item, and not all cases satisfy this relationship. For example:



They only appear to be on the same line; in this case, the amount value in label-baseline usually does not take effect. However, if it is "center", "top", or "bottom", the label will be aligned with the first paragraph of the current item (not the first line), For example:



- label-format: Customize labels in any way. It takes
  - none : Does not take effect
  - function
    - The form is: it => ..., Access
      - it.body to get the label content,
      - it.level for the current label's level, and
      - it.n for the current label's index
      - it.n-last for the last index of the current level

Example:

```
2
  #set enum(
3
    numbering: numbly(
       "{1:A}",
5
      "{2:1}.",
6
       "{3:a})",
7
     ),
8
     full: true, // add this if use `numbly`
9
  #set text(size: 10pt)
  #show: el.default-enum-list.with(
12
     label-format: it => {
13
      if it.level == 1 {
14
        let text-height = measure([A]).height
        set text(size: 20pt, fill: blue,
15
        weight: "bold")
16
         set align(center)
         let number = box(stroke: 1pt + blue,
17
         inset: 5pt, width: 25pt)[#it.body]
18
         let height = measure(number).height
19
        move(dy: height)[#number]
20
       } else {
21
        it.body
22
       }
23
     enum-spacing: ((above: 5pt, below: 25pt),
25
     item-spacing: (-5pt, auto),
     auto-base-level: true,
26
27 )
28 #lorem(10)
29 + #lorem(10)
30
     - #lorem(10)
31
     - #lorem(10)
32 + \#lorem(15)
   + #lorem(5)
    + + #lorem(5)
35 + #lorem(5)
     + #lorem(5)
36
37 + \#lorem(15)
38 #lorem(10)
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- B

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

- 1. Lorem ipsum dolor sit amet.
- 2. a) Lorem ipsum dolor sit amet.
  - b) Lorem ipsum dolor sit amet.
- 3. Lorem ipsum dolor sit amet.



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

#### array

- The (level-1)-th element of the array applies to the label at the level-th level.
- Each element in the array can be:
  - 1. A function with the form body => ..., which applies the label's content to this function.
  - 2. A content, which outputs this content directly.
  - 3. auto or none, which means no processing will be done.
  - 4. An array:
    - Its elements follow the meanings of 1, 2, and 3 above.
    - The (n-1)-th element of the array applies to the n-th item's label at the current level.

```
#let emoji = (emoji.alien,
1
   emoji.book.orange, emoji.butterfly,
                                                typ
   emoji.cloud.storm, el.LOOP)
 #show: el.default-enum-list.with(
     label-format: (
3
        emoji,
                                                         • Lorem ipsum dolor sit amet.
       box.with(stroke: 1pt + blue, inset: 1pt),
5
                                                            1. Lorem ipsum dolor sit amet.
6
       auto.
                                                                1. Lorem ipsum dolor sit amet.
7
     ),
                                                            2. Lorem ipsum dolor sit amet.
8
  )
                                                            Lorem ipsum dolor sit amet.
   + #lorem(5)
                                                         Korem ipsum dolor sit amet.
10
     + #lorem(5)
                                                         Lorem ipsum dolor sit amet.
11
       + #lorem(5)
                                                            Lorem ipsum dolor sit amet.
12
     + #lorem(5)
13 + #lorem(5)
14 + #lorem(5)
15 + #lorem(5)
16 + #lorem(5)
```

- This method can not only control the style of labels, but also control the content displayed by the current label. In the current version <code>0.2.x</code>, we recommend using <code>enum.numbering</code> (along with the <code>numbly</code> package) to control the output content of labels in <code>enum</code>, and <code>list.marker</code> to control the output content of labels in <code>list</code>.
- Note. We no longer recommend formatting labels using enum.numbering as in ver0.1.x, In complex cases, it may also cause "layout did not converge within 5 attempts".

```
label-width: Sets the width of the label.
```

- 1. auto: Uses the native behavior.
- 2. length: The width of the label.
- 3. dictionary, with keys:
  - amount: length, auto, or "max".
  - style: "default", "constant", "auto", or "native".

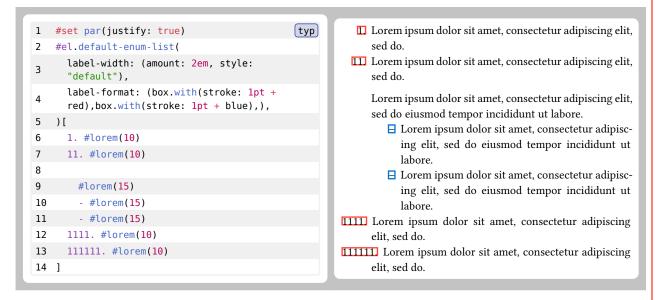
The Case 2 is equivalent to (amount: len, style: "default"), where len is the specified width value; The Case 1 is equivalent to (amount: max-width, style: "native"), where max-width is the maximum width of labels at the current level.

Below we explain their differences. Let max-width be the maximum width of labels at the current level (also affected by auto-label-width). Here, amount represents the meaning shown in the diagram (i.e., for the default style, the hanging indent length = amount + body-indent; for the paragraph style, the hanging indent length = amount).

When style is "native", the label's width is rendered as max-width. For example:

```
#set par(justify: true)
                                                   typ
                                                                 Lorem ipsum dolor sit amet, consectetur adipiscing
2
   #el.default-enum-list(
      label-width: (amount: 2em, style:
                                                                  elit, sed do.
3
      "native"),
                                                                Lorem ipsum dolor sit amet, consectetur adipiscing
      label-format: (box.with(stroke: lpt +
                                                                  elit, sed do.
      red),box.with(stroke: 1pt + blue),),
                                                                  Lorem ipsum dolor sit amet, consectetur adipiscing elit,
5
                                                                  sed do eiusmod tempor incididunt ut labore.
6
      1. #lorem(10)
                                                                  ■ Lorem ipsum dolor sit amet, consectetur adipiscing
7
      11. #lorem(10)
                                                                        elit, sed do eiusmod tempor incididunt ut labore.
8
                                                                  ☐ Lorem ipsum dolor sit amet, consectetur adipiscing
9
        #lorem(15)
                                                                        elit, sed do eiusmod tempor incididunt ut labore.
10
        - #lorem(15)
                                                              11111 Lorem ipsum dolor sit amet, consectetur adipiscing
11
        - #lorem(15)
                                                                  elit, sed do.
      1111. #lorem(10)
                                                            1111111 Lorem ipsum dolor sit amet, consectetur adipiscing
13
      111111. #lorem(10)
                                                                  elit, sed do.
14 ]
```

When style is "default", if the actual width of the current label is less than amount, the label's width is rendered as amount; otherwise, the label's width is rendered as its actual width. For example:



This behavior is similar to MS-Word and can also serve as a solution for <a href="https://github.com/typst/typst/issues/4126">https://github.com/typst/typst/issues/4126</a>.

When style is "constant", the label's width is rendered as amount. For example:

```
    Lorem ipsum dolor sit amet, consectetur adipiscing elit,

   #set par(justify: true)
                                                   typ
2
   #el.default-enum-list(
                                                              111 Lorem ipsum dolor sit amet, consectetur adipiscing elit,
      label-width: (amount: 2em, style:
3
                                                                  sed do.
      "constant"),
      label-format: (box.with(stroke: 1pt +
                                                                  Lorem ipsum dolor sit amet, consectetur adipiscing elit,
4
      red),box.with(stroke: lpt + blue),),
                                                                  sed do eiusmod tempor incididunt ut labore.
5
                                                                      ☐ Lorem ipsum dolor sit amet, consectetur adipisc-
      1. #lorem(10)
6
                                                                        ing elit, sed do eiusmod tempor incididunt ut
7
      11. #lorem(10)
                                                                        labore.
8
                                                                      ☐ Lorem ipsum dolor sit amet, consectetur adipisc-
9
        #lorem(15)
                                                                        ing elit, sed do eiusmod tempor incididunt ut
10
        - #lorem(15)
11
        - #lorem(15)
                                                             [1111] Lorem ipsum dolor sit amet, consectetur adipiscing elit,
12
      1111. #lorem(10)
13
     111111. #lorem(10)
                                                          11 Lorem ipsum dolor sit amet, consectetur adipiscing elit,
14 1
                                                                  sed do.
```

When style is "auto", the label's width is rendered as its actual width; in this case, the amount value affects the hanging indent of the first line. For example:

```
#set par(justify: true)
                                                   (typ)

    Lorem ipsum dolor sit amet, consectetur adipiscing elit,

   #el.default-enum-list(
3
      label-width: (amount: 2em, style: "auto"),
                                                            Lorem ipsum dolor sit amet, consectetur adipiscing elit,
      label-format: (box.with(stroke: 1pt +
                                                                  sed do.
      red),box.with(stroke: 1pt + blue),),
                                                                  Lorem ipsum dolor sit amet, consectetur adipiscing elit,
5)[
                                                                  sed do eiusmod tempor incididunt ut labore.
      1. #lorem(10)
6
                                                                  ☐ Lorem ipsum dolor sit amet, consectetur adipiscing
7
      11. #lorem(10)
                                                                        elit, sed do eiusmod tempor incididunt ut labore.
8
                                                                  ■ Lorem ipsum dolor sit amet, consectetur adipiscing
9
        #lorem(15)
                                                                        elit, sed do eiusmod tempor incididunt ut labore.
10
        - #lorem(15)
                                                            11111 Lorem ipsum dolor sit amet, consectetur adipiscing
11
        - #lorem(15)
                                                                  elit, sed do.
12
      1111. #lorem(10)
                                                            IIIIII Lorem ipsum dolor sit amet, consectetur adipiscing
13
      1111111. #lorem(10)
                                                                  elit, sed do.
14 ]
```

This behavior is like terms.

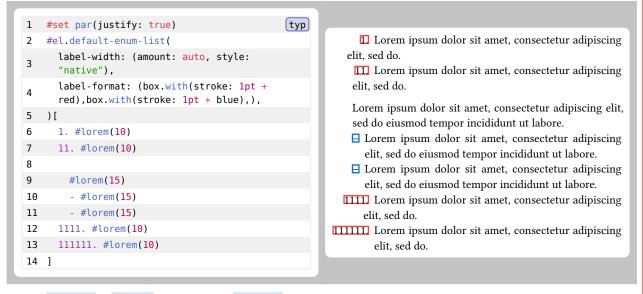
 Specifically, if amount is set to -body-indent, the next line of all paragraphs will be aligned to the left edge.

```
#set par(justify: true)
                                                  (typ)
2
   #el.default-enum-list(
                                                            Lorem ipsum dolor sit amet, consectetur adipiscing elit,
3
      body-indent: 1em,
                                                            sed do.
      label-width: (amount: -lem, style: "auto"),
                                                            Lorem ipsum dolor sit amet, consectetur adipiscing elit,
                                                            sed do.
      label-format: (box.with(stroke: 1pt +
5
      red),box.with(stroke: 1pt + blue),),
                                                            Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed
6
                                                            do eiusmod tempor incididunt ut labore.
7
      1. #lorem(10)
                                                            ■ Lorem ipsum dolor sit amet, consectetur adipiscing elit,
8
      11. #lorem(10)
                                                            sed do eiusmod tempor incididunt ut labore.
9
                                                            ■ Lorem ipsum dolor sit amet, consectetur adipiscing elit,
10
        #lorem(15)
                                                            sed do eiusmod tempor incididunt ut labore.
11
       - #lorem(15)
                                                            IIII. Lorem ipsum dolor sit amet, consectetur adipiscing
12
        - #lorem(15)
                                                            elit, sed do.
13
      1111. #lorem(10)
                                                            111111 Lorem ipsum dolor sit amet, consectetur adipiscing
      111111. #lorem(10)
                                                            elit, sed do.
14
15
```

- When amount is auto, the value of amount is calculated as the actual width of the current label; specifically:
  - When style is "default", "constant", or "auto", the effect is the same:

```
#set par(justify: true)
                                                           Lorem ipsum dolor sit amet, consectetur adipiscing elit,
2
   #el.default-enum-list(
                                                              sed do.
      label-width: (amount: auto, style: "auto"),
                                                           111 Lorem ipsum dolor sit amet, consectetur adipiscing elit,
      label-format: (box.with(stroke: lpt +
                                                               sed do.
4
      red),box.with(stroke: lpt + blue),),
                                                               Lorem ipsum dolor sit amet, consectetur adipiscing elit,
5)[
                                                               sed do eiusmod tempor incididunt ut labore.
6
      1. #lorem(10)
                                                               Lorem ipsum dolor sit amet, consectetur adipiscing
7
      11. #lorem(10)
                                                                 elit, sed do eiusmod tempor incididunt ut labore.
8
                                                               ☐ Lorem ipsum dolor sit amet, consectetur adipiscing
9
        #lorem(15)
                                                                 elit, sed do eiusmod tempor incididunt ut labore.
        - #lorem(15)
10
                                                           IIII Lorem ipsum dolor sit amet, consectetur adipiscing
        - #lorem(15)
11
                                                                 elit, sed do.
12
      1111. #lorem(10)
                                                           111111 Lorem ipsum dolor sit amet, consectetur adipiscing
13
    111111. #lorem(10)
                                                                   elit. sed do.
14 1
```

- When style is "native", the effect is:

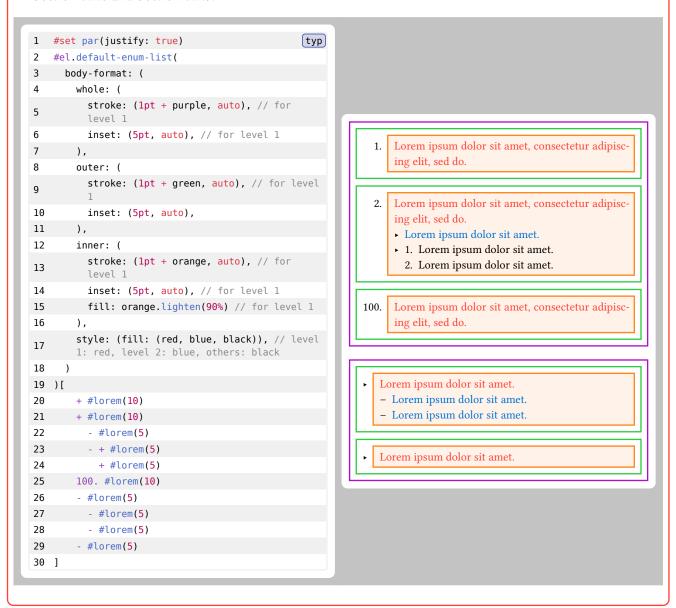


- When amount is "max", the value of amount is the maximum actual width of labels at the current level.
- Currently, the setting of label-width is also affected by the format of label-format, especially when label-format specifies width information. In this case, the actual width of the label will be determined by the width specified in label-format (usually set via constructs like box.with(width: ...)). It is recommended to set the container width in label-format to auto and then control it via label-width.

#### 3.1.4 Body formatting settings: hanging-indent, line-indent, body-format

- line-indent, hanging-indent: Control the first-line indentation (excluding the first paragraph) and hanging indentation for paragraphs in each level of the enumerations and lists. Unless auto is used, paragraph indentation cannot be changed via #set par.
- body-format: Sets the text style and border style of the body. It is a dictionary containing the following keys:
  - none: Does not take effect.

- style: A dictionary that can include any named arguments of text to format the text style of body.
- whole, outer, inner: Dictionaries used to set the borders of the item.
  - whole: Wraps the entire enum or list
  - outer: Wraps the item (including the label)
  - inner: Wraps the item (excluding the label)
  - If whole, outer, or inner is omitted, the default is to set the border for outer.
  - Supported border properties (consistent with box borders):
    - stroke
    - radius
    - outset
    - fill
    - inset
    - clip
  - Note. In ver0.2.x, inset with relative length is temporarily not supported!!!
- Each value in style, whole, outer, inner is also supported array and function types. See Section 3.1.6 and Section 3.1.7.



```
#set par(justify: true)
   #el.default-enum-list(
2
3
      body-format: (
        outer: (
          stroke: it => {
            let r = calc.rem-euclid(it.n * 40 +
6
            it.level * 60, 255)
                                                             1. Lorem ipsum dolor sit amet.
            let g = calc.rem-euclid(it.n * 50 +
7
            it.level * 50, 255)
                                                             2. Lorem ipsum dolor sit amet.
            let b = calc.rem-euclid(it.n * 20 +
8
                                                                 ▶ Lorem ipsum dolor sit amet.
            it.level * 20, 255)
            color.rgb(r, g, b)

    Lorem ipsum dolor sit amet.

10
          },
          inset: 5pt,
11
                                                                    2. Lorem ipsum dolor sit amet.
12
        ),
13
14 )[
                                                             3. Lorem ipsum dolor sit amet.
15
        + #lorem(5)
                                                                 ▶ Lorem ipsum dolor sit amet.
16
        + #lorem(5)
          - #lorem(5)
17
18
          - + #lorem(5)
19
            + #lorem(5)
20
        + #lorem(5)
21
          - #lorem(5)
22 ]
```

#### 3.1.5 auto-label-width

Typically, the body indentation between different enums and lists cannot be aligned, mainly because the body indentation is related to the actual (maximum) width of the labels.

To ensure consistent first-line indentation of the body across different enums and lists, you can now set auto-label-width to auto and use the method auto-label-item to align the sublists within. For example:

```
Lorem ipsum dolor sit amet.
                                                      typ
  #el.default-enum-list(
                                                                          Lorem ipsum dolor sit amet.
      auto-label-width: auto,
3
     body-format: (
4
        whole: (
5
          stroke: (1pt + red, 1pt + green, auto),
                                                                     Lorem ipsum dolor sit amet.
          inset: (5pt, 5pt, auto),
7
        ),
                                                                             Lorem ipsum dolor sit amet, consectetur
8
        inner: (
                                                                             adipiscing elit, sed do.
          stroke: (1pt + orange, 1pt + orange,
9
          auto,),
                                                                             Lorem ipsum dolor sit amet, consectetur
10
          inset: (5pt, 5pt, auto),
                                                                             adipiscing elit, sed do.
11
          fill: orange.lighten(90%)
12
13
      style: (fill: (red, blue, black)),
                                                                             1. Lorem ipsum dolor sit amet.
14
     ),
15 )[
                                                                             1. Lorem ipsum dolor sit amet.
16
     + #lorem(5) // 不参与
17
       10. #lorem(5)
    #el.auto-label-item(form: "all")[
18
                                                                       100.
                                                                             Lorem ipsum dolor sit amet, consectetur
    // consider as a new enum-list
                                                                             adipiscing elit, sed do.
20
        + #lorem(5)
          + #lorem(10)
21
22
          + #lorem(10)
                                                               Lorem ipsum dolor sit amet.
23
          - + #lorem(5)
24
          - + #lorem(5)
                                                                     Lorem ipsum dolor sit amet.
25
         100. #lorem(10)
26
                                                                          1. Lorem ipsum dolor sit amet.
27
        #lorem(5)
28
        10. #lorem(5)
                                                                     Lorem ipsum dolor sit amet.
29
         + #lorem(5)
30
          #lorem(5)
                                                                      1000.
                                                                             Lorem ipsum dolor sit amet.
         1000. #lorem(5)
31
32
     ]
     // 不参与
33
      100. #lorem(5)
                                                                100.
                                                                      Lorem ipsum dolor sit amet.
35
      + #lorem(5)
36 ]
                                                                       1. Lorem ipsum dolor sit amet.
```

- Parameter form of the method auto-label-item, which can take the following values:
  - none : No processing.
  - "each" == auto: Enum and list are considered separately, i.e., align the label in enums and the label in lists independently.
  - "enum": Only align the label in enum.
  - ▶ "list": Only align the label in list.
  - ▶ "all": Align the label in both enum and list.
  - ▶ array: Each element can be one of the above values, where the value of the level-1 -th element represents the alignment method for the label at the level -th level.
  - Note. The method auto-label-item cannot be nested.

```
#el.default-enum-list(
                                                   typ
2
      auto-label-width: auto,
3
     body-format: (
                                                                  Lorem ipsum dolor sit amet.
        whole: (
          stroke: (1pt + red, 1pt + green, auto),
                                                                         Lorem ipsum dolor sit amet, consectetur
6
          inset: (5pt, 5pt, auto),
                                                                         adipiscing elit, sed do.
7
        inner: (
                                                                         Lorem ipsum dolor sit amet, consectetur
          stroke: (1pt + orange, 1pt + orange,
                                                                         adipiscing elit, sed do.
          auto,),
10
          inset: (5pt, 5pt, auto),
         fill: orange.lighten(90%)
11
                                                                       1. Lorem ipsum dolor sit amet.
12
                                                                      1. Lorem ipsum dolor sit amet.
13
        style: (fill: (red, blue, black)),
14
     ),
15 )[
16
     #el.auto-label-item(form: ("all", "each"))[
                                                                         Lorem ipsum dolor sit amet, consectetur
                                                                         adipiscing elit, sed do.
     // consider as a new enum-list
17
18
        + #lorem(5)
19
       + #lorem(10)
                                                                 Lorem ipsum dolor sit amet.
20
          + #lorem(10)
21
          - + #lorem(5)
                                                            Lorem ipsum dolor sit amet.
22
          - + #lorem(5)
23
        100. #lorem(10)
                                                                  Lorem ipsum dolor sit amet.
24
        + #lorem(5)
25
        #lorem(5)
        - #lorem(5)
26
                                                             10. Lorem ipsum dolor sit amet.
27
        10. #lorem(5)
28
     ]
29 ]
```

To align the body indentation throughout the entire document, simply add the following at the beginning of the document:

```
1 #show : el.default-enum-list.with(auto-label-width: "all") typst
```

The values and meanings of auto-label-width are the same as those of the form parameter in the auto-label-item method.

- Note. auto-label-width can be set once for non auto or none.
- Note. In a document, auto-label-width only retrieves the actual maximum width of labels at the current level of enums and lists.

#### 3.1.6 Passing array to Parameters

If a method in the itemize package accepts an array type parameter, then:

- Each element controls the style for the corresponding level of the enum and list.
- The last element's value applies to subsequent levels.
- If the last element of the array is LOOP, the values in the array will be used cyclically.
- If the parameter applies to each item, each element in the array can also be an array, where each element applies to the corresponding item.

For example:

```
1 #show: el.default-enum-list.with(
2
     fill: (yellow, blue, auto, el.LOOP),
3
     weight: "bold",
4
     body-format: (
5
       style: (
          fill: (red, (purple, green, el.LOOP),
                                                             1. Level1 One
6
          black),
                                                            2. Level1 Two
7
                                                               1. Level2-1
8
      ),
                                                                  • Level3 Lorem ipsum dolor sit amet.
9
                                                                    Level4 Lorem ipsum dolor sit amet.
10 + Level1 One
                                                                  • Level3 Lorem ipsum dolor sit amet.
11 + Level1 Two
                                                               2. Level2-2
    + Level2-1
                                                                  1. Level3 Lorem ipsum dolor sit amet.
13 - Level3 #lorem(5)
                                                                     1. Level4 Lorem ipsum dolor sit amet.
                                                                     2. Level4 Lorem ipsum dolor sit amet.
14
         Level4 #lorem(5)
        Level3 #lorem(5)
                                                               3. Level2-3
15
                                                               4. Level2-4
16
    + Level2-2
                                                            3. Level1 Three
    + Level3 #lorem(5)
17
         + Level4 #lorem(5)
       + Level4 #lorem(5)
19
20
    + Level2-3
     + Level2-4
22 + Level1 Three
```

#### The meaning is:

- Label styles:
  - Levels 1-3: yellow, blue, green, the current text color (due to auto), then cyclically used (because the last element of the array is LOOP). Specifically, level 4: yellow.
  - All levels: Bold weight.
  - Level 1: 15pt font size; subsequent levels: 12pt.
- Body styles:
  - Level 1: red.
  - Level 2:
    - First item: purple.
    - Second item: green.
    - Then cyclically used (because the last element of the array is LOOP).
  - Remaining levels: black

#### 3.1.7 Passing function to Parameters

If a method in the itemize package accepts a function type parameter, its form is:

```
1 it => ... (typst)
```

- The meaning is:
  - ▶ The return value will be used for each level and item.
    - If the return value is an array, it will be used for each item.
    - Note. So the parameter taking array and it => array has different meanings. The parameter taking array is used for each level, while the parameter taking it => array is used for each item.
  - The parameter it in this method typically provides three properties:

- level: The current level;
- n: The current index;
- n-last: The index of the last item in the current level.
- For horizontal spacing parameters (indent, body-indent, hanging-indent, line-indent, label-indent),
  - it also provides additional properties:
  - ▶ label-width: Captures the label width for levels 1 to the current level.
    - Use (it.label-width.get)(some-level) to get the max label width at some-level.
    - Or it.label-width.current for the current level (equivalent to (label-width.get)(level)).
  - e: Captures the construction (enum or list) for levels 1 to the current level. Use (it.e.get)(some-level) or it.e.current.
  - ▲ **Breaking Change**. In ver0.1.x, the function form here was:

```
1 (level, label-width, level-type) => length | auto (typst)
```

This syntax is no longer supported in ver0.2.x. Now, the unified approach is to use it.\*\*\* for access.

Here's an example using a function to align all labels to the left:

```
\#let ex1 = [
                                                 (typ)
2
     + #lorem(10)
     + #lorem(10)
3
        + #lorem(10)
5
         + #lorem(10)
6
           + #lorem(10)
7
         + #lorem(10)
8
     + #lorem(10)
9
   ]
10 #table(
11
      rows: 2,
12
       #set enum(numbering: "(A).(I).(i)", full:
13
       true, number-align: left)
14
       #show: el.default-enum-list
15
16
     ],
17
        #set enum(numbering: "(A).(I).(i)", full:
18
        true, number-align: left)
19
        #let indent-f = it => {
20
          if it.level >= 2 {
            -(it.label-width.get)(it.level - 1) -
            (it.e.get)(it.level - 1).body-indent
22
          } else {
            auto
23
24
          }
25
        #show: el.default-enum-list.with(indent:
26
        indent-f)
27
        #ex1
28
     ],
29 )
```

- (A) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (B) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - $\begin{tabular}{ll} (B).(I) Lorem ipsum dolor sit amet, consectetur \\ adipiscing elit, sed do. \end{tabular}$ 
    - (B).(I).(i) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do. (B).(I).(i).(i) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
    - (B).(I).(ii) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (C) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (A) Lorem ipsum dolor sit amet, consectetur adipiscing elit. sed do.
- (B) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (B).(I) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (B).(I).(i) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (B).(I).(ii) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (C) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Here is another example.

```
#let number = (a, b) \Rightarrow {
      (calc.rem-euclid(a * 100 + b * 50, 255),
      calc.rem-euclid(a * 2 + b * 5, 255),
2
      calc.rem-euclid(a * 10 + b * 60, 255))
3 }
   #show: el.default-enum-list.with(
5
      size: it => {
        (it.level + it.n)* 5pt
6
7
     body-format: (
        style: (
          fill: it => color.rgb(..number(it.level,
10
         it.n)).
         size: it => (10pt, 12pt, 16pt) // The
11
         each size of 1-4-th item's body is 10pt,
        12pt, 16pt, and others are 16pt.
12
       ),
13
     ),
14 )
15 + \#lorem(10)
16 + \#lorem(10)
17
     + #lorem(10)
        + #lorem(10)
19
       + #lorem(10)
     + #lorem(10)
20
21 + #lorem(10)
```

- 1. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- 2. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - **1.** Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
    - 1. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
    - 2. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - 2. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- 3. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

## 3.1.8 enum-config and list-config

When using the \*-enum-list method, you can configure enum and list separately

- enum-config: Only applies to enum
- list-config: Only applies to list
- The parameter type is a dictionary, and the currently allowed properties (keys) are:
  - indent,
  - body-indent,
  - label-indent,
  - ▶ is-full-width,
  - item-spacing,
  - enum-spacing,
  - enum-margin,
  - hanging-indent,
  - line-indent,
  - label-width,
  - label-align,
  - label-baseline,
  - label-format,
  - body-format,
  - any named arguments of the function of text

- Rules: If both \*-enum-list and enum-config (list-config) have the same property set, the rules are:
  - ► The settings in enum-config (list-config) take precedence.
  - For properties of function type, a composite operation is used, where the inner function is provided by enum-config (list-config):
    - label-format, item-format
  - For properties that are dictionaries composed of multiple attributes, these attributes are merged, and if the same attribute exists, the value from enum-config (list-config) is used.
    - body-format

```
#set enum(numbering: "A.a.1")
1
                                                    (typ)
2
  #show: el.default-enum-list.with(
3
   indent: (0.5em, 0em),
     label-format: it => {
4
5
       if it.level == 1 {
          box(inset: 2pt, fill: blue.lighten(80%))
6
          [#it body]
7
        } else {
8
          strong[#it.body]
9
       }
10
      },
11
     body-format: (
        style: (fill: (red, black)),
12
13
14
      enum-config: (
15
     fill: (blue, red, purple, el.LOOP),
                                                              A Lorem ipsum dolor sit amet.
16
       label-baseline: "center",

    Lorem ipsum dolor sit amet.

17
       label-format: it => {
18
         set align(center + horizon)
                                                                      1 Lorem ipsum dolor sit amet.
          box(stroke: 1pt + blue, inset: 2pt, radius:
19
                                                                      (2) Lorem ipsum dolor sit amet.
        lem, width: 1.2em, height: 1.2em)[#it.body]
                                                                               Lorem ipsum dolor sit amet.
20
                                                                            · Lorem ipsum dolor sit amet.
        body-format: (
21
                                                                          Item Lorem ipsum dolor sit amet.
22
          outer: (
                                                                          Item Lorem ipsum dolor sit amet.
23
            stroke: ((left: 2pt + blue), auto),
                                                                   (b) Lorem ipsum dolor sit amet.
24
          ),
25
      ),
                                                                   · Lorem ipsum dolor sit amet.
26
      ).
                                                             B Lorem ipsum dolor sit amet.
27
     list-config: (
28
        fill: green,
29
        label-align: center,
30
     ),
31 )
32 + \#lorem(5)
33 + \#lorem(5)
        + #lorem(5)
35
      + #lorem(5)
36
         - #lorem(5)
37
       - #lorem(5)
          - #el.item[Item] #lorem(5)
39
        - #el.item[Item] #lorem(5)
40
     + #lorem(5)
      - #lorem(5)
42 + \#lorem(5)
```

#### 3.1.9 auto-base-level

- In ver0.1.x, we used absolute levels, meaning \*-enum-list, \*-enum, and \*-list always used absolute levels for configuration, rather than treating the current level as 1. This was not intuitive.
- Breaking change Now in ver0.2.x, each time you use \*-enum-list, \*-enum, or \*-list to configure enum and list, the current level is treated as 1.

```
#table(
                                                                                                                      (typ)
2
      columns: (1fr, 1fr),
3
     [ver0.1.x], [ver0.2.x],
4
5
     #import "@preview/itemize:0.1.2"
6
        #show: itemize.default-enum-list
        - $vec(1, 1, 1)$
7
8
          - #lorem(4)
          #show: itemize.default-enum-list.with(fill: (red, blue, yellow))
9
           // colored by yellow
10
11
           - #lorem(4)
              - #lorem(4)
12
            - #lorem(4)
13
14
          - #lorem(4)
15
        - #lorem(4)
16
     ],
17
     [
        #show: el.default-enum-list
19
        - $vec(1, 1, 1)$
20
          - #lorem(4)
21
           #show: el.default-enum-list.with(fill: (red, blue, yellow))
22
           // colored by red
23
           - #lorem(4)
             // colored by blue
25
             - #lorem(4)
            - #lorem(4)
26
27
          - #lorem(4)
28
        - #lorem(4)
29
      ],
30 )
ver0.1.x
                                                              ver0.2.x
                                                                  1
  ▶ Lorem ipsum dolor sit.
                                                                ▶ Lorem ipsum dolor sit.

    Lorem ipsum dolor sit.

    Lorem ipsum dolor sit.

    Lorem ipsum dolor sit.

                                                                     · Lorem ipsum dolor sit.
      Lorem ipsum dolor sit.
                                                                  - Lorem ipsum dolor sit.

    Lorem ipsum dolor sit.

    Lorem ipsum dolor sit.

  Lorem ipsum dolor sit.
                                                               Lorem ipsum dolor sit.
```

- To maintain compatibility with native behavior, the display of numbering and marker still uses absolute levels. This means even if you reconfigure enum.numbering and list.marker in sublists, the display of numbering and marker in sublists follows the absolute level rules.
  - ▶ If auto-base-level is set to true, then it treats the current level as 1.
  - Note the difference when enum.full is set to true (only affects the current sublist).

```
1 #table(
                                                                                                                          typ
2
      columns: (1fr, 1fr),
3
      [native (`auto-base-level`: `false`)], [`auto-base-level`: `true`],
4
        #show: el.default-enum-list
5
6
        + $vec(1, 1, 1)$
7
          + #lorem(4)
8
             #set enum(numbering: "1.a.i.")
9
            #show: el.default-enum-list.with(fill: (red, blue, yellow))
10
               + #lorem(4)
11
             + #lorem(4)
12
13
           + #lorem(4)
        + #lorem(4)
14
15
      ],
16
      [
17
        #show: el.default-enum-list
        + $vec(1, 1, 1)$
18
19
          + #lorem(4)
20
             #set enum(numbering: "1.a.i.")
21
            #show: el.default-enum-list.with(fill: (red, blue, yellow), auto-base-level: true)
22
             + #lorem(4)
23
               + #lorem(4)
             + #lorem(4)
24
           + #lorem(4)
25
26
        + #lorem(4)
27
      ],
28 )
native (auto-base-level: false)
                                                                auto-base-level: true
    \begin{pmatrix} 1 \\ 1 \end{pmatrix}
                                                                1.
1.
                                                                     1
   1. Lorem ipsum dolor sit.
                                                                   1. Lorem ipsum dolor sit.
      i. Lorem ipsum dolor sit.
                                                                      1. Lorem ipsum dolor sit.
         i. Lorem ipsum dolor sit.
                                                                        a. Lorem ipsum dolor sit.
      ii. Lorem ipsum dolor sit.
                                                                      2. Lorem ipsum dolor sit.
   2. Lorem ipsum dolor sit.
                                                                   2. Lorem ipsum dolor sit.
                                                                2. Lorem ipsum dolor sit.
2. Lorem ipsum dolor sit.
```

```
1
   #table(
                                                                                                                (typ)
      columns: (1fr, 1fr),
2
3
     [native (`auto-base-level`: `false`, `full: true`)], [`auto-base-level`: `true`, `full: true`],
4
5
       #show: el.default-enum-list
6
        + $vec(1, 1, 1)$
7
          + #lorem(4)
            #set enum(numbering: "1.a.i.", full: true)
8
9
           #show: el.default-enum-list.with(fill: (red, blue, yellow))
10
            + #lorem(4)
11
           + #lorem(4)
           + #lorem(4)
12
          + #lorem(4)
13
14
        + #lorem(4)
15
     ],
16
     [
17
      #show: el.default-enum-list
18
        + $vec(1, 1, 1)$
```

```
19
          + #lorem(4)
20
            #set enum(numbering: "1.a.i.", full: true)
            #show: el.default-enum-list.with(fill: (red, blue, yellow), auto-base-level: true)
21
            + #lorem(4)
23
             + #lorem(4)
24
            + #lorem(4)
25
          + #lorem(4)
26
        + #lorem(4)
27
     ],
28 )
native (auto-base-level: false, full: true)
                                                                auto-base-level: true, full: true
    1 1
   1. Lorem ipsum dolor sit.
                                                                  1. Lorem ipsum dolor sit.
      1.a.i. Lorem ipsum dolor sit.
                                                                     1. Lorem ipsum dolor sit.
            1.a.i.i. Lorem ipsum dolor sit.
                                                                       1.a. Lorem ipsum dolor sit.
      1.a.ii. Lorem ipsum dolor sit.
                                                                     2. Lorem ipsum dolor sit.
   2. Lorem ipsum dolor sit.
                                                                  2. Lorem ipsum dolor sit.
2. Lorem ipsum dolor sit.
                                                               2. Lorem ipsum dolor sit.
```

## 3.2 Referencing Enum Numbers

```
• To enable this feature, use the following at the beginning of the document:

1 #show: el.config.ref typst
```

Note. The method ref-enum in itemize 0.1.x will be deprecated in the future; please use config.ref instead.

In the enum item you want to reference, label it with <some-label>, and then use @<some-label> to reference the enum number of that item.

Note. If the enum number cannot be retrieved correctly, use the method elabel(<some-label>) to label the enum.

```
1 #show: el.config.ref
                                                       (typ)
                                                               (1) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed
2 #set enum(numbering: "(1).(a)")
3 #show: el.default-enum-list
                                                                   (a) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
4 + \#lorem(10)
                                                                       sed do.
5
   + #lorem(10)
                                                                   (b) a^2 + b^2 = c^2
   + $a^2+b^2 = c^2$ #el.elabel(<item:eq>)
                                                               (2) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed
7 + #lorem(10) <item:one>
  The Conclusion @item:one and the equation in
                                                               The Conclusion (2) and the equation in Item (b) are important.
   @item:eq[Item] are important.
```

Configuration Method: The config.ref Method

If ull: auto | bool = auto: Default is auto, using the full value from enum. true displays the full number (including parent levels); false displays only the current item's number.

Inumbering: auto | function | str = auto: Numbering pattern or formatter. Default is auto, using the numbering of the referenced enum. You can customize the style of the referenced item number.

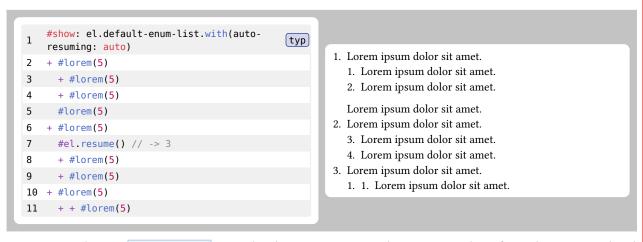
Inumbering: auto | auto = auto. Supplemental content for the reference.

```
#show: el.config.ref.with(numbering: "1.a",
                                                   typ
  supplement: "Item", full: true)
                                                            (1) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
2 #set enum(numbering: "(1).(a)")
3 #show: el.default-enum-list
                                                                (a) Lorem ipsum dolor sit amet, consectetur adipiscing
                                                                   elit, sed do.
4 + #lorem(10)
                                                                (b) a^2 + b^2 = c^2
  + #lorem(10)
                                                            (2) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
    + $a^2+b^2 = c^2$ #el.elabel(<item:eq2>)
7 + #lorem(10) <item:two>
  The @item:two and the equation in
                                                            The Item 2 and the equation in Item 1.b are important.
  @item:eq2[Item] are important.
```

## 3.3 Resuming Enum

Related to this feature is the parameter auto-resuming in the methods \*-enum-list (or \*-enum), which can take the following values:

- none: Disables this feature.
- **auto**: Enables this feature.
  - Use the method resume() to continue using the enum numbers from the previous enum at the same level.



You can also use resume[...] to explicitly continue using the enum numbers from the previous level
(especially in ambiguous cases) and treat the [...] as a new enum. For example:

```
#show: el.default-enum-list.with(auto-
                                                  typ
1
    resuming: auto)
2
   + #lorem(5)
                                                           1. Lorem ipsum dolor sit amet.
3
     + #lorem(5)
                                                              1. Lorem ipsum dolor sit amet.
      + #lorem(5)
                                                             2. Lorem ipsum dolor sit amet.
5
     #lorem(5)
                                                             Lorem ipsum dolor sit amet.
   + #lorem(5)
                                                           2. Lorem ipsum dolor sit amet.
     #el.resume()[
                                                             3. Lorem ipsum dolor sit amet.
8
       // consider as a new enum
                                                             4. Lorem ipsum dolor sit amet.
9
        + #lorem(5)
                                                              1. Lorem ipsum dolor sit amet.
10
        + #lorem(5)
                                                           3. Lorem ipsum dolor sit amet.
11
     ] // -> 3
12
     + #lorem(5)
13 + #lorem(5)
```

- Alternatively, use the method resume-label(<some-label>) to label the enum you want to resume, and then use resume-list(<some-label>) in the desired enum to continue using the labelled enum numbers.
  - If you use the following in your document:

```
1 #show: el.config.ref-resume (typst)
```

You can use @some-label instead of resume-list(<some-label>).

```
#show: el.default-enum-list.with(auto-
                                             typ
   resuming: auto)
2
  + #lorem(5)
3 + #lorem(5) #el.resume-label(<resume:a>)
     + #lorem(5)
5
  + #lorem(5)
     #lorem(5)
7
   + #lorem(5)
8
  #lorem(5)
9 #el.resume-list(<resume:a>) // -> 4
  + #lorem(5)
```

- 1. Lorem ipsum dolor sit amet.
  - 1. Lorem ipsum dolor sit amet.
  - 2. Lorem ipsum dolor sit amet.
  - 3. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

2. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

4. Lorem ipsum dolor sit amet.

```
#show: el.config.ref-resume
                                              (typ)
   #show: el.default-enum-list.with(auto-
   resuming: auto)
   + #lorem(5) #el.resume-
3
   label(<resume:level-1>)
     + #lorem(5)
5
   + #lorem(5)
     #lorem(5)
6
7
   + #lorem(5)
8
     @resume:level-1 // -> 4
9
     + #lorem(5)
10 + \#lorem(5)
```

- 1. Lorem ipsum dolor sit amet.
  - 1. Lorem ipsum dolor sit amet.
  - 2. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

- 2. Lorem ipsum dolor sit amet.
  - 4. Lorem ipsum dolor sit amet.
- 3. Lorem ipsum dolor sit amet.
- Or use the method auto-resume-enum(auto-resuming: true)[...], where all enum numbers within [...] will continue from the previous ones.
  - auto-resuming can also be an array, where each element indicates whether the enum numbers for the corresponding level should continue from the previous ones.

```
#show: el.default-enum-list.with(auto-
1
                                              typ
   resuming: auto)
2
  + #lorem(5)
     #el.auto-resume-enum(auto-resuming: (false,
4
       // resume sublist from the level 2
     + #lorem(5)
5
6
       + #lorem(5)
7
      + #lorem(5)
8
       #lorem(5)
9
       + #lorem(5)
10
         + #lorem(5)
11
12 #lorem(5)
13 + \#lorem(5)
     + #lorem(5)
```

- 1. Lorem ipsum dolor sit amet.
  - 1. Lorem ipsum dolor sit amet.
  - 2. Lorem ipsum dolor sit amet.
    - 1. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

- 1. Lorem ipsum dolor sit amet.
  - 2. Lorem ipsum dolor sit amet.

Lorem ipsum dolor sit amet.

- Lorem ipsum dolor sit amet.
  - 1. Lorem ipsum dolor sit amet.

► The method isolated-resume-enum[...] allows the [...] to be treated as a new enum with independent numbering, without affecting other enums.

```
1 #table(
                                                                                                      typ
     columns: (1fr, 1fr),
2
3
     [Case 1], [Case 2],
4
     [
5
      #show: el.default-enum-list.with(auto-resuming: auto)
6
       + #lorem(5)
7
         + enumA #lorem(5)
8
           + enumB #lorem(5)
9
           + enumB #lorem(5)
        + #lorem(5)
10
11
        + #lorem(5)
12
          + #lorem(5)
13
         + #lorem(5)
           + #lorem(5)
14
15
         #lorem(5)
         #el.resume() // -> 4
16
        + #lorem(5)
17
           #el.resume() // -> 4
19
         + #lorem(5)
      + #lorem(5)
20
21
     ],
22
     ſ
23
     #show: el.default-enum-list.with(auto-resuming: auto)
24
       + #lorem(5)
25
       + enumA #lorem(5)
26
           + enumB #lorem(5)
         + enumB #lorem(5)
27
28
         #el.isolated-resume-enum()[
29
         // isolated sub-enum
30
           + #lorem(5)
31
          + #lorem(5)
32
            + #lorem(5)
            + #lorem(5)
33
34
             + #lorem(5)
35
         ]
         #lorem(5)
36
37
         // resume enumA
38
         #el.resume() // -> 2
39
         + #lorem(5)
40
           // resume enumB
41
           #el.resume() // -> 3
42
           + #lorem(5)
43
     + #lorem(5)
44
    ],
45 )
```

Case 1	Case 2
1. Lorem ipsum dolor sit amet. 1. enumA Lorem ipsum dolor sit amet. 1. enumB Lorem ipsum dolor sit amet. 2. enumB Lorem ipsum dolor sit amet. 2. Lorem ipsum dolor sit amet. 3. Lorem ipsum dolor sit amet. 1. Lorem ipsum dolor sit amet. 2. Lorem ipsum dolor sit amet. 3. Lorem ipsum dolor sit amet. 4. Lorem ipsum dolor sit amet. 2. Lorem ipsum dolor sit amet.	1. Lorem ipsum dolor sit amet. 1. enumA Lorem ipsum dolor sit amet. 2. enumB Lorem ipsum dolor sit amet. 2. enumB Lorem ipsum dolor sit amet. 1. Lorem ipsum dolor sit amet. 2. Lorem ipsum dolor sit amet. 1. Lorem ipsum dolor sit amet. 2. Lorem ipsum dolor sit amet. 3. Lorem ipsum dolor sit amet. 4. Lorem ipsum dolor sit amet. 5. Lorem ipsum dolor sit amet. 6. Lorem ipsum dolor sit amet. 7. Lorem ipsum dolor sit amet. 8. Lorem ipsum dolor sit amet. 9. Lorem ipsum dolor sit amet. 1. Lorem ipsum dolor sit amet.

bool: If auto-resuming is set to true, all enum numbers will continue from the previous ones. It can also be set as an array, e.g., (false, true) means the first level does not enable the resuming feature, while subsequent levels do. Note. Methods with auto-resuming set to true cannot be nested within \*-enum-list (or \*-enum, \*-list). A document can only have one such method. For small documents like exams, exercises, or CVs, if you need to resume enum numbers throughout the document, you can use the following at the beginning: 1 #show : el.default-enum-list.with(auto-resuming: true) typst We recommend using this only at the document's start. Generally, - el.default-enum-list.with(auto-resuming: true) and - el.default-enum-list.with(auto-resuming: auto) may interfere with each other. For large documents like books or articles, we recommend not setting auto-resuming at the beginning (i.e., leave it as none). Instead, set this parameter to auto in the required sublists and use it with methods like resume, resume-label, resume-list, or auto-resume-enum.

#### 3.4 Terms-like Functionality

In a list, you can use the method item to change the current list marker. For example:

```
1 #show: el.default-list
                                                typ
                                                        ■ Lorem ipsum.
2 - #el.item[#sym.ast.square] #lorem(2)
1 #show: el.default-list.with(
                                                                                                          typ
2
     size: (1.2em. auto).
fill: (yellow.darken(20%), auto),
     // baseline: -0.2em,
5 label-width: (amount: lem, style: "auto"),
6
     item-spacing: 1.5em,
7
    // enum-spacing: 1.2em,
8
     body-format: (
9
    whole: (inset: 5pt, fill: black),
10
       style: (fill: white),
```

```
11 ),
12 )
13 - #el.item[为什么现在宣布《黑神话: 钟馗》?] \
14
   因为每年8月20日向玩家汇报我们的进展是我们的传统——今年也不例外。
15
   然而,由于项目目前仅仅是一个空文件夹,几乎没有任何游戏画面可以分享。为了让所有人专注于开发,我们决定制作一个CG短片,让大家知道新
16
   项目已经启动。
17 - #el.item[为什么现在是钟馗?为什么不先做《黑神话:悟空》的续作?] \
   感谢玩家们的坚定支持,第一部黑神话作品已经安全着陆。在完成与天选之人的旅程后,我们现在希望迈出尝试性的第一步——打造更独特的游戏体
   验、挑战更大胆的功能、为我们的世界观和叙事设计带来新鲜的想法。
19
   钟馗是基于这种愿望和其他因素的自然选择。我们相信,在这个新项目中,我们可以做出令人耳目一新的改变,创造新事物,同时认真审视我们过
20
   去的缺陷和遗憾。
21
22 - #el.item[对于所有喜爱《黑神话:悟空》的朋友们:西行之旅不会在这里结束。] \
23
  作为黑神话系列的第二部作品,《黑神话:钟馗》与《黑神话:悟空》相比如何?有什么相似之处和不同之处?
24
   从名称上看,《黑神话:钟馗》与前作一样,都以中国古代神话和民间传说为基础。
25
26
  在类型方面,它仍将是一款标准的单人ARPG,遵循与以前相同的商业模式。
27
   然而——这次你不会扮演猴子角色。话虽如此,我们仍在探索和实验悟空与钟馗之间的具体差异。所以放轻松——让我们先让自己印象深刻,然后再
28
   呈现给你们。
为什么现在宣布《黑神话:钟馗》?
  因为每年8月20日向玩家汇报我们的进展是我们的传统——今年也不例外。
  然而,由于项目目前仅仅是一个空文件夹,几乎没有任何游戏画面可以分享。为了让所有人专注于开发,我们决定制作
  一个 CG 短片, 让大家知道新项目已经启动。
为什么现在是钟馗?为什么不先做《黑神话:悟空》的续作?
  感谢玩家们的坚定支持,第一部黑神话作品已经安全着陆。在完成与天选之人的旅程后,我们现在希望迈出尝试性的第
   -步--打造更独特的游戏体验,挑战更大胆的功能,为我们的世界观和叙事设计带来新鲜的想法。
  钟馗是基于这种愿望和其他因素的自然选择。我们相信,在这个新项目中,我们可以做出令人耳目一新的改变,创造新
  事物,同时认真审视我们过去的缺陷和遗憾。
对于所有喜爱《黑神话:悟空》的朋友们:西行之旅不会在这里结束。
  作为黑神话系列的第二部作品,《黑神话:钟馗》与《黑神话:悟空》相比如何?有什么相似之处和不同之处?从名称
  上看,《黑神话: 钟馗》与前作一样, 都以中国古代神话和民间传说为基础。
  在类型方面,它仍将是一款标准的单人 ARPG, 遵循与以前相同的商业模式。
  然而——这次你不会扮演猴子角色。话虽如此,我们仍在探索和实验悟空与钟馗之间的具体差异。所以放轻松——让我们
  先让自己印象深刻,然后再呈现给你们。
```

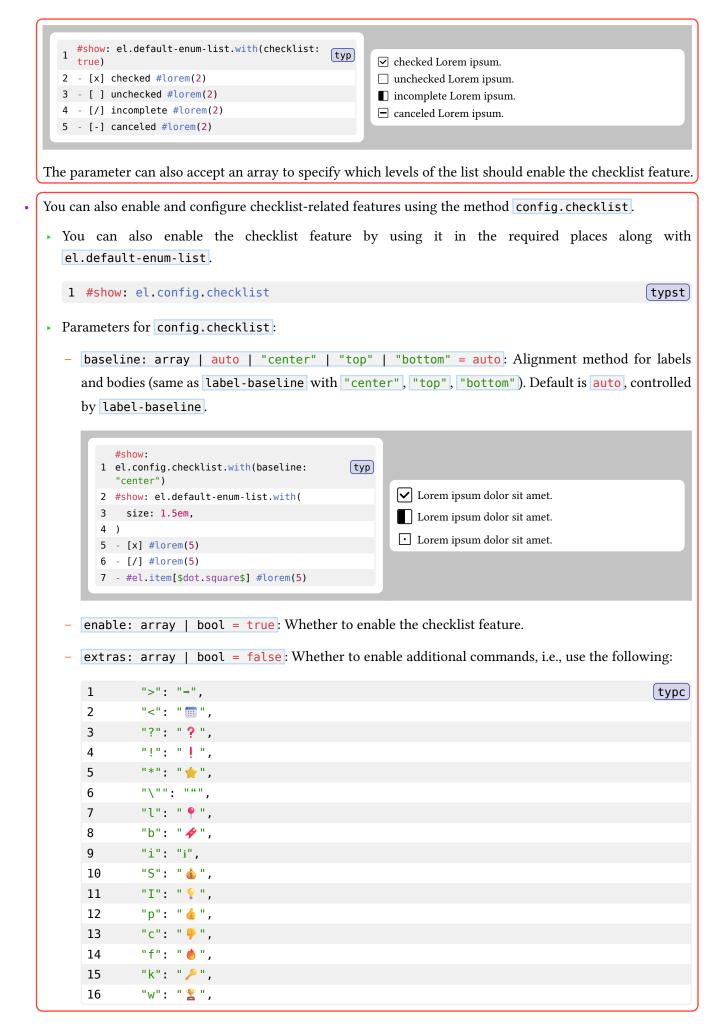
#### 3.5 Checklist

This feature is essentially the same as the package <a href="cheq">cheq</a>. However, in native <a href="enum">enum</a>, labels and bodies are topaligned, while in <a href="itemize">itemize</a>, they are aligned within the same paragraph. This causes misalignment when using <a href="cheq">cheq</a> with <a href="itemize">itemize</a>. Additionally, <a href="cheq">cheq</a> uses <a href="enum">enum</a> to implement checklists, which means <a href="enum">enum</a> configurations affect the checklist. Therefore, we have added the <a href="checklist">checklist</a> feature to <a href="itemize">itemize</a> with minor enhancements and fixes.

```
To enable this method, set the <a href="https://checklist.ncm">checklist</a> parameter to <a href="true">true</a> in *-enum-list (or *-list). For example:

1  #show: el.default-enum-list.with(checklist: true)

Now we can use:
```



```
"u": "🔼 ",
 17
          "d": "□",
 18
      #show: el.config.checklist.with( extras: [typ]
   1 true)
                                                      checked Lorem ipsum.
   2 #show: el.default-enum-list
                                                      ? unchecked Lorem ipsum.
   3 - [>] checked #lorem(2)
                                                      b incomplete Lorem ipsum.
   4 - [?] unchecked #lorem(2)
                                                     canceled Lorem ipsum.
   5 - [f] incomplete #lorem(2)
   6 - [d] canceled #lorem(2)
fill: array | auto | color = auto: Border color. If set to auto, it uses the current label's style.
radius: array | length = 0.1em: Border radius.
solid: array | none | color = none: Solid color. Default is none.
   1 #show: el.config.checklist.with(
                                             typ
   2
        fill: (blue, auto),
   3
       radius: (.5em, 0em),
        solid: gray.lighten(50%),
                                                     checked Lorem ipsum.
   5 )
                                                     unchecked Lorem ipsum.
   6 #show: el.default-enum-list
                                                        N Lorem ipsum.
       - [x] checked #lorem(2)

    incomplete Lorem ipsum.

      - [ ] unchecked #lorem(2)
                                                     canceled Lorem ipsum.
      - [N] #lorem(2)
   10 - [/] incomplete #lorem(2)
   11 - [-] canceled #lorem(2)
enable-character: array | bool = true: When set to true, if the character in [...] is not among
x, , - / or the extras characters (if extras is true), the character in [...] will be displayed. For
example:
   1 #show: el.default-enum-list
                                             typ
   2 #show: el.config.checklist
   3 - [N] #lorem(5)
                                                     N Lorem ipsum dolor sit amet.
   4 - [A] #lorem(5)
                                                     A Lorem ipsum dolor sit amet.
   6 #show: el.config.checklist.with(enable-
                                                     • [N] Lorem ipsum dolor sit amet.
                                                     • [A] Lorem ipsum dolor sit amet.
      character: false)
   7 - [N] #lorem(5)
   8 - [A] #lorem(5)
symbol-map: dictionary | function = (:): Custom commands.
 • Can replace built-in commands or add new ones.
   ► The format is: ("some-character": content).
 • If a function is specified, its form is: it => dictionary, where it provides three properties: fill,
   radius, solid.
```

```
#show: el.default-enum-list.with(fill:
                                             typ
1
   blue)
2
  #show: el.config.checklist.with(
     symbol-map: (" ": emoji.checkmark, "A":
3
4
  )
5 - [] #lorem(5)
  - [A] #lorem(5)
7
8
   #let box-sym(fill: white, stroke:
9
   rgb("#616161"), radius: .lem, body) = box(
10
     stroke: .05em + stroke,
     fill: fill,
11
12
     height: 1em,

    Lorem ipsum dolor sit amet.

13
     width: 1em,
                                                     Lorem ipsum dolor sit amet.
     radius: radius,
14
15 ) [#body]
                                                     ☐ Lorem ipsum dolor sit amet.
16 #show: el.config.checklist.with(
                                                     Lorem ipsum dolor sit amet.
17
    fill: blue,
                                                     A Lorem ipsum dolor sit amet.
     solid: luma(95%),
19 symbol-map: it => (
        " ": box-sym(fill: it.solid, stroke:
20
       it.fill, radius: .2em, []),
       "x": box-sym(fill: it.fill, stroke:
21
       it.fill, radius: .2em, [#text(fill:
       white)[#emoji.checkmark]]),
        "A": box-sym(fill: it.fill, stroke:
22
       it.fill, radius: .2em, [#text(fill:
       white)[A]]),
23),
24 )
25 - [ ] #lorem(5)
26 - [x] #lorem(5)
27 - [A] #lorem(5)
```

enable-format: array | bool = false: Whether to enable formatting for the body, with the format content determined by format-map. The default formatting is for the character "-", with the formatting function:

- Note. According to our design, the text-style of checklist labels cannot be formatted, but other text formatting will still affect the label.
- Note. If [] is followed by list or enum, the label formatting will be incorrect (because the label and the current body are treated as the same paragraph). For example:

Typically works as expected:

```
1 #show: el.default-enum-list
2 #show: el.config.checklist.with(enable-
format: true)
3 - [ ] #lorem(3)
4 - [-]
5 + #lorem(3)
6 + #lorem(3)
7 - - [-] #lorem(3)
Lorem ipsum dolor.

Lorem ipsum dolor.
```

Incorrect formatting (uncommon usage):

```
1 #show: el.default-enum-list
2 #show: el.config.checklist.with(enable-
format: true)
3 - [] #lorem(3)
4 + - [-]
5 + #lorem(3)
6 + #lorem(3)
Lorem ipsum dolor.
1.  1. Lorem ipsum dolor.
2. Lorem ipsum dolor.
```

One solution (which may impact performance) is to exclude body formatting from the label by using item-format: it => it.body.

- format-map: dictionary = (:), Formatting for list items.
  - The format follows: ("some-character": some-function).
  - some-function takes the form it => ..., It applies the body of the current some-character item to this method.

```
1 #show: el.default-enum-list
2 #show: el.config.checklist.with(
3
    enable-format: true,
     format-map: (
       "!": it => highlight(it),
                                                     ☐ Lorem ipsum dolor.
       "-": it => strike(text(fill:
       rgb("#888888"), emph(it))), // Overrides
                                                     ■ Lorem ipsum dolor.
       the format-function of "-'
                                                     Lorem ipsum dolor.
7
   ),
8
  )
9 - [ ] #lorem(3)
  - [-] #lorem(3)
11 - [!] #lorem(3)
```

## 3.6 Enhancements to list.marker

The itemize package improves the parsing of list.marker as a function type (supporting label control for each item). Now, the function can be defined as:

```
(typst)
1 level => n => content
or
                                                                                                                 typst
1 level => array
Here:
    level: The relative nesting level of the list, cyclically used.
   ▲ Breaking change: For compatibility with the native list.marker behavior, unlike the methods provided
       by itemize, the level here starts from 0 (see issue#3).
    ▶ Also, the item'index starts from 0.
             #let test-list = [
          2
               - #lorem(5)
                  - #lorem(5)
          3
                  - #lorem(5)
          4
          5
               - #lorem(5)
                                                                 1 - 1 Lorem ipsum dolor sit amet.
          6
             ]
                                                                      2 - 1 Lorem ipsum dolor sit amet.
          7 #[
                                                                      2 - 2 Lorem ipsum dolor sit amet.
                #show: el.default-enum-list.with(label-
                                                                 1 - 2 Lorem ipsum dolor sit amet.
                format: it => [#it.level - #it.n])
          9
               #test-list
                                                                 0 - 0 Lorem ipsum dolor sit amet.
          10 1
                                                                      1 - 0 Lorem ipsum dolor sit amet.
                                                                      1 - 1 Lorem ipsum dolor sit amet.
          11 #[
                                                                 0 - 1 Lorem ipsum dolor sit amet.
                #set list(marker: level => n => [#level -
          12
                #show: el.default-enum-list.with(auto-base-
          13
               level: true)
```

• | n => content or array: The label for each item in the same level.

#test-list

14 15 ]

```
#show: el.default-enum-list
                                                   typ
   #let marker = level => {
3
   if level == 0 { // stand for level 1!!!
                                                            ♣ Lorem ipsum dolor sit amet.
        ([#sym.suit.club.filled],
                                                            ♠ Lorem ipsum dolor sit amet.
        [#sym.suit.spade.filled],
                                                              Lorem ipsum dolor sit amet.
        [#sym.suit.heart.filled], el.LOOP)
                                                              Lorem ipsum dolor sit amet.
      } else if level == 1 { // stand for level 2!!!
5
                                                                  Lorem ipsum dolor sit amet.
     The first item's number starts from 0
        n => rotate(24deg * n, box(rect(stroke: 1pt +
                                                                  ☑ Lorem ipsum dolor sit amet.
6
        blue, height: lem, width: lem)))
                                                               Lorem ipsum dolor sit amet.
7
     } else { // others
                                                              Lorem ipsum dolor sit amet.
        [#sym.ballot.check.heavy]
8
                                                              Lorem ipsum dolor sit amet.
9
                                                            ♥ Lorem ipsum dolor sit amet.
10 }
11 #set list(marker: marker)
                                                              Lorem ipsum dolor sit amet.
                                                            ♣ Lorem ipsum dolor sit amet.
12 - #lorem(5)
   - #lorem(5)
13
      - #lorem(5)
```

```
15
     - #lorem(5)
16
       - #lorem(5)
17
    - #lorem(5)
18
     - #lorem(5)
19
    - #lorem(5)
20
     - #lorem(5)
21 - #lorem(5)
22
    - #lorem(5)
23 - #lorem(5)
```

# 3.7 \*-enum and \*-list Methods

These methods function similarly to \*-enum-list. However,

- \*-enum only applies to enum without affecting nested list styles.
- \*-list only applies to list without affecting nested enum styles.

```
1 #show: el.default-enum.with(
                                                      (typ)
2
     fill: (red, blue, green),
                                                               1. Lorem ipsum dolor sit amet.
3
     weight: "bold",
                                                                  1. Lorem ipsum dolor sit amet.
4
  )
  + #lorem(5)
                                                                  · Lorem ipsum dolor sit amet.
5

    Lorem ipsum dolor sit amet.

      + #lorem(5)
6
7
      - #lorem(5)
                                                                   1. Lorem ipsum dolor sit amet.
8
        - #lorem(5)
                                                                   ▶ 1. Lorem ipsum dolor sit amet.
9
       + - #lorem(5)
                                                                  · Lorem ipsum dolor sit amet.
      - + #lorem(5)
                                                               2. Lorem ipsum dolor sit amet.
11 - #lorem(5)
12 + #lorem(5)
```

## Comparison of differences:

```
1 #show: el.default-enum-list.with(
                                                      typ
2
      fill: (red, blue, green),
                                                               1. Lorem ipsum dolor sit amet.
3
     weight: "bold",
                                                                  1. Lorem ipsum dolor sit amet.
4
  )
                                                                  · Lorem ipsum dolor sit amet.
5
  + #lorem(5)

    Lorem ipsum dolor sit amet.

6
      + #lorem(5)
7
      - #lorem(5)
                                                                    1. Lorem ipsum dolor sit amet.
8
        - #lorem(5)
                                                                    ▶ 1. Lorem ipsum dolor sit amet.
9
       + - #lorem(5)
                                                                  · Lorem ipsum dolor sit amet.
       - + #lorem(5)
10
                                                               2. Lorem ipsum dolor sit amet.
11
   - #lorem(5)
12 + #lorem(5)
```

Note. The behavior in ver0.2.x differs slightly from ver0.1.x. To separately configure enum and list in the enum-list, use enum-config and list-config in \*-enum-list. The following approach cannot separately configure enum and list:

```
1 // This show-rule cannot be applied
   2 #show: el.default-enum.with(
  3 fill: (red, blue, green),
        weight: "bold",
                                                        1. Lorem ipsum dolor sit amet.
   5 )
                                                           1. Lorem ipsum dolor sit amet.
   6 // Only this show-rule is applied
                                                           Lorem ipsum dolor sit amet.
      #show: el.default-list.with(fill: (yellow,

    Lorem ipsum dolor sit amet.

      orange))
   8 + \#lorem(5)
                                                            1. - Lorem ipsum dolor sit amet.
   9
       + #lorem(5)
                                                            - 1. Lorem ipsum dolor sit amet.
       - #lorem(5)
   10
                                                           Lorem ipsum dolor sit amet.
      - #lorem(5)
  11
                                                        2. Lorem ipsum dolor sit amet.
         + - #lorem(5)
  13 - + #lorem(5)
       - #lorem(5)
   14
   15 + #lorem(5)
In ver0.2.x, we do not recommend the following approach (it does not meet expectations).
1 #show enum: el.default-enum.with(...)
                                                                                                     typst
2 #show list: el.default-list.with(...)
The correct approach is:
1 #show : el.default-enum-list.with(
                                                                                                     typst
2
      enum-config: (
3
4
5
      list-config: (
6
         . . .
7
 8 )
```

### 3.8 Set-Rule

In the current version of typst (0.14), we cannot use custom functions with set rule, which prevents us from retaining previously set property values when using default-item-list, paragraph-item-list, etc. Now, with the elembic package, we can achieve this functionality. To this end, we have repackaged default-item-list and paragraph-item-list into set-default and set-paragraph methods, which work the same as the original functions but retain previously set property values.

Usage instructions:

Include the following at the beginning of your document:

```
1 #show: el.set-default() // need ()!!!

Note. The key difference is that set-default requires parentheses!
```

```
(1) Lorem ipsum dolor sit amet.
   #let item = [
                                                                   (a) Lorem ipsum dolor sit amet.
2
      + #lorem(5)
                                                                   (b) (i) Lorem ipsum dolor sit amet.
3
        + #lorem(5)
                                                                   (c) • Lorem ipsum dolor sit amet.
        + + #lorem(5)
                                                               (2) Lorem ipsum dolor sit amet.
5
        + - #lorem(5)
                                                               (1) Lorem ipsum dolor sit amet.
6
      + #lorem(5)
                                                                   (a) Lorem ipsum dolor sit amet.
7
                                                                   (b) (i) Lorem ipsum dolor sit amet.
8
                                                                   (c) • Lorem ipsum dolor sit amet.
   #show: el.set-default()
                                                               (2) Lorem ipsum dolor sit amet.
10 #set enum(numbering: "(1).(a).(i)")
11 #item
                                                               (1) Lorem ipsum dolor sit amet.
                                                                      (a) Lorem ipsum dolor sit amet.
13 // change the label color
   #show: el.set-default(fill: (red, blue, green,
                                                                      (b) (i) Lorem ipsum dolor sit amet.
14
    auto))
                                                                      (C) • Lorem ipsum dolor sit amet.
15 #item
16
                                                               (2) Lorem ipsum dolor sit amet.
17 // change the label size
    #show: el.set-default(size: (20pt, 16pt, 14pt,
                                                                (1) Lorem ipsum dolor sit amet.
                                                                      (a) Lorem ipsum dolor sit amet.
19 #item
                                                                             (i) Lorem ipsum dolor sit amet.
21 // change the body-indent and indent

    Lorem ipsum dolor sit amet.

   #show: el.set-default(body-indent: (auto, 0.5em),
                                                               (2) Lorem ipsum dolor sit amet.
    indent: (auto, 0em, 1em, auto))
23 #item
                                                               (1) Lorem ipsum dolor sit amet.
24
                                                                   (a) Lorem ipsum dolor sit amet.
25 // use the default style
                                                                   (b) (i) Lorem ipsum dolor sit amet.
26 #show: el.set-default()
                                                                   (c) • Lorem ipsum dolor sit amet.
27 #item
                                                               (2) Lorem ipsum dolor sit amet.
```

## 3.9 Experimental Features

### 3.9.1 Clearing Recorded Information in resuming enum

When implementing the resume-label and resume-list features in resuming enum, the itemize package needs to record the sequence numbers of the marked enums. If these records are no longer needed in the document, you can call the adv.reset-resume() method to clear this information. One common use case is:

```
1  // New enum-before
2
3  // el.adv.reset-resume()
4  // New enum-here:
5  // el.adv.reset-resume()
6
7  // New enum-after

Improper use of adv.reset-resume() may break the resuming enum functionality.
```

### 3.9.2 Customizing Body Formatting

In \*-enum-list (\*-enum and \*-list), you can freely customize the format of each item's body using the item-format property.

```
It accepts

1. none: Does not take effect.

2. a function with form:
```

1 it => ... (typst)

which will apply to the body of each item'body. it has the following properties:

- ▶ it.level: The level of the current item.
- ▶ it.body: The body of the current item.
- ▶ it.n: The index of the current item in the current level.
- it.n-last: The index of the last item in the current level.
- 3. an array, whose elements are function with form body => ... which will be applied to the body of each item in turn.
- 4. or a dictionary with the following keys:
  - whole: Wraps the entire enum or list
  - outer: Wraps each item (including the label)
  - inner: Wraps each item (excluding the label)
  - If whole, outer, or inner is omitted, the default is outer.
  - ▶ The values are taken as Case 2 and Case 3 above.

```
#set enum(numbering: "(a)(i)(1)")
                                                typ
   #show: el.default-enum-list.with(
2
3
    item-format: it => {
4
       if it.level == 2 {
         // Equivalent to: if it.level >= 2
5
6
         show: highlight
7
         it.body
       } else {
8
9
         it.body
10
       }
11
     },
12 )
13 + #lorem(10)
14
    + #lorem(10)
   + + #lorem(10)
16 + #lorem(10)
```

- (a) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - (i) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
  - (ii) (1) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.
- (b) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

```
#set enum(numbering: "(a)(i)(1)")
                                                 (typ)
   #show: el.default-enum-list.with(
     item-format: (
       outer: (block.with(fill:
4
       orange.lighten(80%)),auto),
5
       whole: it => {
6
         if it.level == 2 {
7
           show: strong
           set text(fill: orange)
           box(stroke: (left: 3pt +
           orange,rest: .5pt + orange), outset:
9
            (left: 3pt, top : 2pt), inset: (bottom:
           1pt))[
              #place(right+bottom)
10
              [#sym.suit.club.filled]
11
             #it.body]
12
         } else {
13
           it.body
14
         }
15
```

- (a) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.
  - (i) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.
  - (ii) (1) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.
- (b) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.
  - (i) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.
  - (ii) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

```
16 ),

17 )

18 + #lorem(15)

19 + #lorem(15)

20 + + #lorem(15)

21 + #lorem(15)

22 + #lorem(15)

23 + #lorem(15)
```

However, this may disrupt the correct positioning of the list labels. (The main reason is that itemize needs to treat the label and the first line of the body as the same paragraph.). It is mainly reflected in:

- When using containers (such as box and block) to wrap the body content, using the inset property of these containers may cause incorrect label positioning.
  - Since item-format is specified as a function, we cannot access properties like inset (left), making it impossible to correctly handle label positioning.
- Using complex layout containers (such as move, rotate, or place) to wrap the body content may also lead to incorrect label layout.
- Although we can ensure that most text formatting (e.g., highlight) applied to the body does not affect the nested label format, achieving this effect requires a complete refactor of the body elements in each item (to distinguish between labels and bodies).
  - ▶ lower, upper, sub, and super are not supported.

However, you can use show el.adv.style-format-label to apply these effects. For example:

```
typ
  #set enum(numbering: "(a)(i)(1)")
2 #show: el.default-enum-list.with(
3 item-format: it => {
       if it.level == 2 {
4
5
      // Equivalent to: if it.level >= 2
                                                       (a) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
6
         show el.adv.style-format-label: upper
                                                          sed do.
7
         show: highlight
                                                           (i) LOREM IPSUM DOLOR SIT AMET,
8
         it.body
                                                              CONSECTETUR ADIPISCING ELIT, SED DO.
9
       } else {
                                                          (ii) (1) LOREM IPSUM DOLOR SIT AMET,
         it.body
10
                                                                 CONSECTETUR ADIPISCING ELIT, SED DO.
11
       }
                                                       (b) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
12
     },
                                                          sed do.
13 )
14 + \#lorem(10)
   + #lorem(10)
     + + \#lorem(10)
17 + #lorem(10)
```

- Content wrapped in context may not be processed correctly. (You can use layout(\_ => {...}) as an alternative.) Similarly, content output in ref(<...>) may also not be processed correctly.
- You can use adv.native-content[...] to prevent text formatting from being applied to the body. Example:

```
#set enum(numbering: "(a)(i)(1)")
2
   #show: el.default-enum-list.with(
3
     item-format: it => {
       if it.level == 2 {
       // Equivalent to: if it.level >= 2
6
          show el.adv.style-format-label: upper
                                                          (a) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
7
          show: highlight
                                                             sed do
8
          it.body
                                                              (i) LOREM IPSUM DOLOR SIT AMET, CONSECTETUR
9
       } else {
                                                                 ADIPISCING ELIT, SED DO.
10
          it.body
                                                                 BEFORE Lorem ipsum. AFTER
11
                                                             (ii) (1) LOREM IPSUM DOLOR SIT AMET,
12
     },
                                                                    CONSECTETUR ADIPISCING ELIT, SED DO.
13 )
                                                          (b) Lorem ipsum dolor sit amet, consectetur adipiscing elit,
14 + #lorem(10)
                                                             sed do.
     + #lorem(10)
16
        before #el.adv.native-content([#lorem(2)])
17
        after
18
     + + \#lorem(10)
19 + #lorem(10)
```

# 4 Changelog and All Features

Breaking Change: 1

New Feature: № for ver0.2.x

If you were using ver0.1.x, please read this section carefully when upgrading to ver0.2.x, as we have made some changes to the configuration methods.

- Two styles of enum-list
  - Default (native typst)
  - Paragraph
- Customize labels and bodies for enums and lists by level and item
  - Allow per-item configuration
  - Enable loop usage of array element values: LOOP
  - If a property can be set at both the level and item, it allows passing a function
    - The function format is now standardized as it => ..., where you can control it by accessing its properties, typically it.level and it.n
      - More properties may be added in the future
      - ▲ Breaking change: Properties related to horizontal spacing now follow this format, and additional properties like it.label-width (stores the actual maximum width of the label) and it.e (represents the current level's construction object: enum or list) are provided
      - ▲ Breaking change: Deprecated level, level-count, and list-level
        - ▶ Using these methods to configure enum and list properties may sometimes cause "layout did not converge within 5 attempts"
        - In ver0.1.x, per-level and per-item settings for enum.numbering can now be combined with the numbly package and the label-format method

- When using the \*-enum-list method, you can separately configure enums and lists: enum-config. list-config Horizontal spacing settings: indent, body-indent, label-indent, enum-margin (is-full-width) Vertical spacing settings: item-spacing, enum-spacing Label customization - text-style (..args) ■ label-align label-baseline label-format label-width Label alignment between items at different levels: auto-label-width ▶ auto-base-level ▲ Breaking change: When configuring enums and lists using \*-enum-list, \*-enum, or \*-list, the current level is treated as 1 • Version 0.1.x used absolute levels - To maintain compatibility with native behavior, the display of numbering and markers still follows absolute levels. Even if you reconfigure enum.numbering and list.marker in sublists, their display adheres to absolute level rules • In this case, auto-base-level is set to true, treating the current level as 1 Body formatting: hanging-indent, line-indent body-format: text-style: style Border settings: outer, inner, whole: (stroke, radius, outset, fill, inset)
- Enum numbering references: elabel and config.ref

Experimental: item-format

- ▲ The ref-enum method from ver0.1.x will be deprecated in the future. Please use configuration
- Resume enum (issue#1)

  auto-resuming

  none: Disable resume functionality

  auto: Using the following methods:

  resume

  resume-label, resume-list

  auto-resume-enum

  isolated-resume-enum (independent sublists)

  Globally use true or (true, false) etc. to enable functionality; false means the functionality does not apply to this level
- List enhancements

- Enhanced list.marker: Allows passing a function parameter in the form of level => n => content or level => array
   Terms-like functionality: item
   Checklist (from the cheq package, with minor enhancements and fixes for compatibility with itemize)
   Configure using config.checklist
- Add manual
- Fixes
  - Alignment of labels and bodies
  - Block-level elements displayed on the same line (issue#4)
    - Now better handles blank content in typst, ensuring correct alignment, e.g.,

```
1 #show: el.default-enum-list
2 + #state("").update(none)
3 + 111
1. 1. 111
```

is now correctly processed

 Due to limitations in typst, content within context cannot be retrieved in pure typst, making it impossible to correctly process cases like:

```
1 #show: el.default-enum-list
2 + #context {block[#text.fill]}

1. luma(0%)
```

• Temporary solution: Use layout(\_ => {...}) instead of context {...}, e.g.,

```
1 #show: el.default-enum-list
2 + #layout(_ => {block[#text.fill]})
1. luma(0%)
```

- Similarly, output content in ref(...) cannot be processed
- For block-level elements, our handling is more refined compared to native behavior:
  - If a block-level element behaves like a paragraph (par, pad, block, repeat, layout), it is treated as paragraph behavior, ensuring alignment of labels and bodies within the same paragraph
  - If it is not a paragraph (block-equation, block-raw rect, table, grid, stack, heading, figure, etc.), it follows native behavior
  - ? align here is paragraph behavior but cannot be correctly implemented (currently follows native behavior)
- Resolved some cases where "layout did not converge within 5 attempts" occurred
  - However, this may lead to "maximum show rule depth exceeded" when nesting levels increase
  - Mainly occurs with complex configurations of label-format and body-format
- Other fixes:
  - Support for enum.start
  - ▲ Breaking change: For compatibility with the native list.marker behavior, unlike the methods provided by itemize, the level here starts from 0 (see issue#3).
  - ✓ Fixed: Incorrect label display when mixing enums and lists with \*-enum and \*-list configurations

- Now, we rewrite all the behaviors of enum and list, but \*-enum does not configure list formatting, and vice versa
- ✓ Compatibility with typst 0.14 behavior ([#6609] and [#6242])