The enumsub package

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1 Introduction

The enumsub package provides seamless integration between enumitem and inline sublists with perfect alignment and automatic numbering. It solves the common alignment inconsistencies that occur when trying to combine enumitem and tasks packages.

The package offers:

- Perfect alignment of inline sub-items with dynamic label styling
- Multiple numbering schemes (Roman, alphabetic, Arabic)
- Customizable spacing and dimensions
- Easy-to-use semicolon-separated syntax
- Non-breaking inline layout with consistent spacing

2 Usage

2.1 Basic Usage

The main command is `\enumsub`, which takes semicolon-separated items and displays them inline with automatic numbering:

```
\begin{enumerate}
  \item
  \begin{enumerate}
    \item \enumsub{yes; no; maybe}
    \item \enumsub{option A; option B}
  \end{enumerate}
\end{enumerate}
```

2.2 Package Options

The package supports three numbering styles:

- `roman` (default): Uses Roman numerals (i), (ii), (iii)
- `alpha`: Uses alphabetic numbering (a), (b), (c)

- `arabic`: Uses Arabic numerals (1), (2), (3)

Load the package with: `\usepackage[roman]{enumsub}`

2.3 Customization

You can adjust the spacing using:

- `\setenumsublabelwidth{`⟨*width*⟩`}` – Width of the label column
- `\setenumsubitemwidth{`⟨*width*⟩`}` – Width of each item column

3 Examples

1. This is a main question.
   - **(a)** **(i)** yes **(ii)** no
   - **(b)** **(i)** definitely **(ii)** maybe **(iii)** never

4 Implementation

5 Implementation

```
1 ⟨*package⟩
```

Load required packages:

```
2 \RequirePackage{enumitem}
3 \RequirePackage{xparse}
4 \RequirePackage{array}
5 \RequirePackage{etoolbox}
```

`\if@enumsub@roman` `\if@enumsub@alpha` `\if@enumsub@arabic`

Package options for numbering styles:

```
6 \newif\if@enumsub@roman
7 \newif\if@enumsub@alpha
8 \newif\if@enumsub@arabic
9 \@enumsub@romantrue
```

Declare and process options:

```
10 \DeclareOption{roman}{\@enumsub@romantrue\@enumsub@alphafalse\@enumsub@arabicfalse}
11 \DeclareOption{alpha}{\@enumsub@alphatrue\@enumsub@romanfalse\@enumsub@arabicfalse}
12 \DeclareOption{arabic}{\@enumsub@arabictrue\@enumsub@romanfalse\@enumsub@alphafalse}
13 \ProcessOptions\relax
```

`\enumsub@labelwidth` `\enumsub@itemwidth`

Customizable dimensions:

```
14 \newdimen\enumsub@labelwidth
15 \newdimen\enumsub@itemwidth
16 \enumsub@labelwidth=2.2em
17 \enumsub@itemwidth=1.5cm
```

`\setenumsublabelwidth` `\setenumsubitemwidth`

User commands to adjust spacing:

```
18 \newcommand{\setenumsublabelwidth}[1]{\enumsub@labelwidth=#1}
19 \newcommand{\setenumsubitemwidth}[1]{\enumsub@itemwidth=#1}
```

`\c@enumsub@counter` Subpart counter that resets at each `\item`:

```
\newcounter{enumsub@counter}
\pretocmd{\item}{\setcounter{enumsub@counter}{0}}{}{}
```

`\enumsub@getlabel` Determine label format based on options:

```
\newcommand{\enumsub@getlabel}{%
  \if@enumsub@roman%
    \textbf{(\roman{enumsub@counter})}%
  \else\if@enumsub@alpha%
    \textbf{(\alph{enumsub@counter})}%
  \else\if@enumsub@arabic%
    \textbf{(\arabic{enumsub@counter})}%
  \fi\fi\fi%
}
```

`\enumsub` Core macro for aligned subparts:

```
\NewDocumentCommand{\enumsub}{>{\SplitList{;}}m}{%
  \begin{tabular}{@{}*{10}{ll}@{}}%
    \ProcessList{#1}{\enumsub@renderitem}%
  \end{tabular}%
}
```

`\enumsub@renderitem` Render individual subpart:

```
\newcommand{\enumsub@renderitem}[1]{%
  \stepcounter{enumsub@counter}%
  \makebox[\enumsub@labelwidth][l]{\enumsub@getlabel} &
  \makebox[\enumsub@itemwidth][l]{#1}%
}
```

Alternative command names for convenience:

```
\let\AutoSubpartsAligned\enumsub
\let\subparts\enumsub
\let\inlineparts\enumsub
```

Predefined list styles:

```
\SetEnumitemKey{mainq}{label=\textbf{\arabic*.},%
                       leftmargin=2em,%
                       itemsep=0.2em,%
                       topsep=0.5em}
\SetEnumitemKey{subq}{label=\textbf{(\alph*)},%
                      leftmargin=2.8em,%
                      itemsep=0.2em,%
                      topsep=0.3em}
```

⟨/package⟩

6 Change History

v1.0

General: Initial version 1

7 Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

Symbols

\@enumsub@alphafalse 10, 12
\@enumsub@alphatrue 11
\@enumsub@arabicfalse 10, 11
\@enumsub@arabictrue 12
\@enumsub@romanfalse 11, 12
\@enumsub@romantrue 9, 10

A

\alph 26, 45
\arabic 28, 44
\AutoSubpartsAligned 41

B

\begin 32

C

\c@enumsub@counter . 20

D

\DeclareOption 10, 11, 12

E

\else 25, 27
\end 34
\enumsub . 31, 41, 42, 43
\enumsub@getlabel 22, 38
\enumsub@itemwidth 14, 19, 39
\enumsub@labelwidth 14, 18, 38
\enumsub@renderitem 33, 36

F

\fi 29

I

\if@enumsub@alpha 6, 25
\if@enumsub@arabic 6, 27
\if@enumsub@roman 6, 23
\inlineparts 43
\item 21

L

\let 41, 42, 43

M

\makebox 38, 39

N

\newcounter 20
\newdimen 14, 15
\NewDocumentCommand 31
\newif 6, 7, 8

P

\pretocmd 21
\ProcessList 33
\ProcessOptions . . . 13

R

\relax 13
\RequirePackage 2, 3, 4, 5
\roman 24

S

\setcounter 21
\SetEnumitemKey . 44, 45
\setenumsubitemwidth 18
\setenumsublabelwidth 18
\SplitList 31
\stepcounter 37
\subparts 42

T

\textbf 24, 26, 28, 44, 45