As my first English book, I'm happy.

—— Ethan Lu
2023-01-11
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Part I

The template usage introduction of Beautybook

Here is the introduction area of each part, where you can write a concise overview of the part, of course, if there is nothing to say, you can leave it blank.
A short introduction of Beautybook

The BeautyLaTeX collection is a series of templates authored by a humble, unknown individual. In fact, there are only two series, one is the custom book template fancybook, which is dedicated to the fresh and elegant style, the other is my flagship product—Beautybook! Why did I choose such an unusual name? My answer is, originally I wanted to name it elegantboook, but there is already the famous elegantbook template. Inspired by the old poem "There is a jade-like beauty waiting for you in the book", the template is named “Beautybook”, which means a beautiful woman in your arms and the fragrance of a book overflowing! Therefore, this is the origin of the name Beautybook!

I am committed to creating a series of beautiful, elegant, simple template to facilitate the use of users and myself. Version changes frequently, please pay attention to version information. Before starting to use templates, it is recommended to choose the latest official version! The latest test version will usually be released in the QQ Group, you can download it and try it yourself!

This article covers some of the setup and basic usage of this template. If you have any other questions, suggestions or comments, feel free to submit them to me on GitHub issues or 163 mail or QQ mail QQ mail.

The Project Addresses are the following.
- GitHub repository: https://github.com/BeautyLaTeX/latex-template,
- Download Release: Official release,
- User QQ Group: 809237593. (!If you are not in China, please e-mail me at outlook-email.)

This work is released under the LaTeX Project Public License, v1.3c or later.

Sec 1.1 Installation and Maintenance of Template

There are two ways you can use this template. The first method is trivial that just download the zip of template from above channel, and then unzip and compile the main file in the archive (i.e. a file with a name like “Beautybook-xx. tex”). The second way is uploading the zip of template to overleaf to comply.

Note that if you choose the second way, you must write math-font=plain in the preamble of the main file!

It is worth noting that when you download the template from CTAN, then the English version of it does not use any third-party fonts, so that one can be compiled using pdflatex. This is an exception to the rule under which all other files must be compiled using the XeLaTeX engine.
1.1. INSTALLATION AND MAINTENANCE OF TEMPLATE

1.1.1 Local Installation

To install locally, follow these steps: download the latest version from GitHub, CTAN or the QQ group. Then place the template files in your working directory and copy these folders synchronously: fonts, sty's, figures, inner_pics, and frontmatter, in order to utilize them. (If you are a chinese user, you can choose to copy the chinesefonts folder.) The advantage of this is that you can install mtpro2 font to achieve a more elegant effect than if you were using it online. Of course, the choice is left to the users, and I won't comment here.

The following is an example of a minimal work:

\documentclass{Beautybook-EN}
\coverstyle={
    cover-choose=en, \% cn (Need \entitle{#}); en ; enfig ; birkar
}
\mathstyle={
    math-font=plain, \% plain; mtpro2
}
\graphicspath{{E:/texlive/2023/texmf-dist/doc/latex/beautybook/}} % You
must change it to your texlive installation address!!

\newtheorem{defi}{Definition}[section]{\textbf{Definition}}[section]{interior style={left color=Red!
8,right color=Red!5!CyaN!50}, borderline west={1.5mm}{0mm}{Red}
},
\thm={\textbf{Theorem}}[section]{interior style={left color=CyaN!80!
black!20,right color=CyaN!80!black!15!CyaN!50}, borderline west={1.5mm
}{0mm}{CyaN!80!black}
},
\lem={\textbf{Lemma}}[section]{interior style={left color=BluE!8,
right color=BluE!5!CyaN!50}, borderline west={1.5mm}{0mm}{BluE}
},
\prop={\textbf{Proposition}}[section]{interior style={left color=
Orange!8,right color=Orange!5!CyaN!50}, borderline west={1.5mm}{0mm}{
Orange}
},
\exam={\textbf{Example}}[chapter]{interior style={left color=
DarkGreen!8,right color=DarkGreen!5!CyaN!50}, borderline west={1.5mm}{0
mm}{DarkGreen}
},
\cor={\textbf{Corollary}}[chapter]{interior style={left color=
violet!8,right color=violet!5!CyaN!50}, borderline west={1.5mm}{0mm}{
violet}
},
\newtheorem*{remark}{Remark}
\makeatletter
\mynewtcbtheorem{
    theorem={
        counter=tcbthm,
        the counter=\thesection.\arabic{tcbthm},
        name=Theorem,
        thmcolor=purple,
    }
1.1. INSTALLATION AND MAINTENANCE OF TEMPLATE

autoref name=\bfseries Theorem, 
style={
arc=3pt,breakable,enhanced,interior style={top color=purple!12 ,middle color=purple!9, bottom color=purple!6},boxrule=0pt,top=8mm, 
fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray},% up 
fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray},% down 
opacityframe=0, opacityback=0.98, 
fontupper=\itshape, step={tcbthm}, 
before pre=\smallskip, after app=\smallskip, 
overlay unbroken=\my@theorem@overlay@unbroken{\theorem@name\ 
thetcbthm}{\theorem@thmcolor}, 
overlay first=\my@theorem@overlay@first{\theorem@name\ 
thetcbthm}{\theorem@thmcolor}, 
overlay last=\my@theorem@overlay@last, 
}
proposition={
counter=tcbprop, 
the counter=\thesection.\arabic{tcbprop}, 
autoref name=\bfseries Proposition, 
style={
arc=3pt,breakable,enhanced,interior style={top color=purple!12 ,middle color=purple!9, bottom color=purple!6},boxrule=0pt,top=8mm, 
fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray}, 
fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray}, 
opacityframe=0, opacityback=0.98, 
fontupper=\itshape, step={tcbprop}, 
before pre=\smallskip, after app=\smallskip, 
overlay unbroken=\my@theorem@overlay@unbroken{Proposition\ 
thetcbprop}{purple}, 
overlay first=\my@theorem@overlay@first{Proposition\ 
thetcbprop}{purple}, 
overlay last=\my@theorem@overlay@last{purple}, 
}
}
definition={
counter=tcbdefi, 
the counter=\thesection.\arabic{tcbdefi}, 
autoref name=\bfseries Definition, 
style={
arc=3pt,breakable,enhanced,interior style={top color=blue!12 ,middle color=blue!9, bottom color=blue!6},boxrule=0pt,top=8mm, 
fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray}, 
fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray}, 
opacityframe=0, opacityback=0.98,
1.1. INSTALLATION AND MAINTENANCE OF TEMPLATE
1.1. INSTALLATION AND MAINTENANCE OF TEMPLATE

A SHORT INTRODUCTION OF BEAUTYBOOK

overlay first=\my@lemma@overlay@first{Corollary\ \thetcbcor}{orange},
overlay last=\my@lemma@overlay@last{orange},
}
example={
  counter=tcbexam,
  the counter=\thesection.\arabic{tcbexam},
  autoref name=bfseries Example,
  style={
    arc=0mm,breakable,enhanced,interior style={top color=cyan!12 ,
    middle color=cyan!9, bottom color=cyan!6},arc=3pt,boxrule=0pt,top=7mm,
    bottom=5mm,
    fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray},
    fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray},
    opacityframe=0, opacityback=0.98,
    fontupper=\normalsize,step={tcbexam},
    before pre=\smallskip, after app=\smallskip,
    overlay unbroken=\my@lemma@overlay@unbroken{Example} \thetcbexam}{cyan},
overlay first=\my@lemma@overlay@first{Example} \thetcbexam}{cyan},
overlay last=\my@lemma@overlay@last{cyan},
}
Exercise={
  counter=tcbexer,
  the counter=\thechapter.\arabic{tcbexer},
  autoref name=bfseries Exercise,
  style={
    arc=0mm,breakable,enhanced,interior style={top color=red!12 ,
    middle color=red!9, bottom color=red!6},arc=3pt,boxrule=0pt,top=7mm,
    bottom=5mm,
    fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray},
    fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray},
    opacityframe=0, opacityback=0.9,
    fontupper=\normalsize,step={tcbexer},
    before pre=\smallskip, after app=\smallskip,
    overlay unbroken=\my@lemma@overlay@unbroken{Exercise} \thetcbexer}{red},
overlay first=\my@lemma@overlay@first{Exercise} \thetcbexer}{red},
overlay last=\my@lemma@overlay@last{red},
}
}
1.1. INSTALLATION AND MAINTENANCE OF TEMPLATE

As my first English book, I’m happy.

\begin{tabular}{lr}
   &----- Ethan Lu \\
   &2023-01-11
\end{tabular}
1.1.2 Release installation and updates

The test environment for this template is
1. Win11 22H2 + \TeX\ Live 2023;
2. Mac\TeX\ Live, please refer to articles online, which is omitted here.

After installing \TeX\ Live, it is recommended to upgrade all macro packages after installation, upgrade methods: use “cmd” or “terminal” to run tlmgr update --all, if tlmgr needs to be updated, use cmd to run tlmgr update --self, if there is a break in the update process, please use tlmgr update -- self --all --reinstall-forcibly-removed update, that is

1. tlmgr update --self
2. tlmgr update --all
3. tlmgr update --self --all --reinstall-forcibly-removed

Please refer to [How do I update my \TeX\ distribution?](#) for more information.
The setting of Beautybook Template

The English version of this template is based on the basic “book” class, and the Chinese version is based on the “ctexbook” class, so the option of book or ctexbook is also valid for this template. The default encoding is UTF-8, and it is recommended to compile with TeX Live.

Sec 2.1 Language Mode

This template includes two basic locales: Beautybook-CN.cls in Chinese and Beautybook-EN.cls in English. Changing the locales alters the headings (including figures and tables) of the chart title, the article formatting (such as table of contents and references), and the language used for theorem contexts (such as Theorem, Lemma, etc.). You can switch between these language modes using the following instructions in the top of the preamble:

1. \documentclass{Beautybook-CN} % chinese
2. \documentclass{Beautybook-EN} % english

In addition to the two language settings that come with the template, if you need to use another language, you can do so by modifying the .cls file as follows:

1. Change the name of the part environment Part\ \thepart to (translation of part in your language)\ \thepart
2. Theorem environment guide words in preamble, such as Theorem.
3. Please remember that only Asian languages can be modified based on Beautybook-CN.cls, other foreign languages need to be modified based on Beautybook-EN.cls.

Sec 2.2 Theme Color

The colors of this template can be configured according to personal preferences in the following way:

1. \definecolor{bg}{HTML}{e0e0e0} % Overall style background color \ i.e. theme light color
2. \definecolor{fg}{HTML}{455a64} % Overall style foreground color \ i.e. theme dark color
3. \% \% The colors below are in the stys/bottompage.sty file
4. \definecolor{coverbgcolor}{HTML}{f9b868} % Cover and bottom page background color
In the preamble of the main file, certain theorem environments’ colors can be set. This will be further explained in the upcoming section on mathematical environments.

Here it is recommended to use the color configuration of the cncolours macro package developed by Lin Lianzhi, and you can select the appropriate color for comparison.

### 2.3. CHOICE OF COVER

#### 2.3.1 How to choose your favorite cover?

This template has multiple sets of covers that can be used at will, and the use of them is as follows:

1. Chinese classic cover (Chinese default) – corresponding macro package `cover-choose=cn`.
2. Springer Classic Cover No. 1 (English default) – corresponding to the macro package `cover-choose=en`.
3. Springer Classic Cover No. 2 (image background) – corresponding to macro package `cover-choose=enfig`.
4. Springer Classic cover No. 3 (Geometric style) – corresponding to the macro package `cover-choose=birkar`.

Note that the information corresponding to the cover is not the same, look at the above example, just follow the requirements.

<table>
<thead>
<tr>
<th>Information</th>
<th>Commands</th>
<th>Information</th>
<th>Commands</th>
<th>Information</th>
<th>Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>\title</td>
<td>subtitle</td>
<td>\subtitle</td>
<td>author</td>
<td>\author</td>
</tr>
<tr>
<td>Publisher</td>
<td>\pressname</td>
<td>Version</td>
<td>\edition</td>
<td>cover image</td>
<td>\coverimage</td>
</tr>
<tr>
<td>Logo</td>
<td>\presslogo</td>
<td>English title (cn)</td>
<td>\entitle</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.3.2 Logo

You can search and obtain the publisher’s logo yourself. To avoid copyright infringement, please ensure to choose a proper and lawful image when replacing the current one.

2.3.3 Custom Cover

Moreover, in case you opt for a personalized cover, say an A4 PDF file created through Adobe Illustrator or any other software, comment out the \makecover command, and subsequently include the custom cover using the \pdfpages macro package. Likewise, if you utilize the \titlepage environment.

Sec 2.4 Title Style

This template is fully customized for section headings, if this is not to your liking, you can comment them out to restore the default style.

Sec 2.5 Introduction to the Mathematical Environments

Our template includes four distinct theorem environments. These consist of the default theorem style provided by “amsthm” in simple mode, as well as a custom style provided by “thmtools." Additionally, we offer a color emphasis box style, an exquisite box style that I developed, and an ancient style box provided by Mr. Wuyue, which can also be used as a theorem box.

2.5.1 Usage of theorem environments

Here is the effect of the theorem environment provided by amsthm.

2.5.1.1 amsthm

Remark. This is an amsthm-based annotation environment

2.5.1.2 thmtools

Proof (description of proof). Proof environment
Solution (description of solution). Solution environment
### 2.5.1.3 Color emphasis box style

| Definition 2.5.1 | (name of the definition). The first defines the environment |
| Theorem 2.5.1 | (name of the thm). The first theorem environment |
| Corollary 2.1 | (name of the corollary). The first inference environment |
| Proposition 2.5.1 | (name of the prop). The first propositional environment |
| Example 2.1 | (name of the example). The first example problem environment |
| Lemma 2.5.1 | (name of the lem). The first lemma environment |

#### Sec 2.6 Two exquisite theorem boxes crafted by the author!

**Definition 2.6.1. (Name)**

Here are the guidelines for using these two boxes.

- **If the theorem name and label are both empty, you can write it like this :**
  
  1. \begin{definition}
  2. Define the environment content
  3. \end{definition}

- **If you don’t have a label but have a name, use it as**
  
  1. \begin{definition}[] [Name]
  2. Define the environment content
  3. \end{definition}

- **If you have a tag, then whether or not it has a name, use it as**
  
  1. \begin{definition}[] [Yes, fill in, no blank] [Tag]
  2. Define the environment content
  3. \end{definition}

- **If you want to change some setting options of the box, such as bordering, etc., use it as**
  
  1. \begin{definition} [tcolorbox options] [If so, write the name, if not, delete it along with the outside brackets.] [tag (}
2.6. TWO EXQUISITE THEOREM BOXES CRAFTED BY THE AUTHOR!

\begin{definition}
Here is where the label is written, if there is no label should be deleted together with the outside brackets.)

Define the environment content
\end{definition}

Theorem 2.6.1.
The usage is the same as above, refer to the tag 2.6.1 below or you can Definition 2.6.1.

Lemma 2.6.1.
The usage is the same as above, refer to the tag 2.6.1 below or you can Definition 2.6.1.

Corollary 2.6.1.
The usage is the same as above, refer to the tag 2.6.1 below or you can Definition 2.6.1.

Example 2.6.1.
The usage is the same as above, refer to the tag 2.6.1 below or you can Definition 2.6.1.

Ancient style box

Test ancient style box, you can use it to nest outside of other environments arbitrarily!

2.6.1 Theorem counter adjustment

If you want to modify the theorem environment to count by section, you can modify the chapter in the counter option \texttt{counter/.code}, the available options are \texttt{chapter} (default) and \texttt{section}, \texttt{subsection}, etc.

2.6.2 How to define a new theorem environment?

There are four ways in which users can define their own theorem environments. Among them \texttt{amsthm} and \texttt{thmtools} can be learned through their macro package documentations. The
latter two theorems are defined in the following way.

For example, in prelude of the main file, you can write it as

% This is the first one.
\mynewtheorem{
defi={\textbf{Definition}}}[section]{interior style={left color=ReD!8, right color=ReD!5!CyaN!50}, borderline west={1.5mm}{0mm}{ReD}}, % It is an example of the first one, then you can mimic it to build the theorem setting you need.

% This is the second one.
<environment name>={
  counter=tcb<theorem counter>,
  the counter=\thesection\arabic{tcb<theorem counter>},
  autoref name=\bfseries <environment name>,
  style={
    arc=3pt,breakable,enhanced,interior style={top color=<your color>!12, middle color=<your color>!9, bottom color=<your color>!6}, boxrule=0pt,top=8mm,
    fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray},
    fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray},
    opacityframe=0, opacityback=0.98,
    fontupper=\itshape, step={tcb<theorem counter>},
    before pre=\smallskip, after app=\smallskip,
    overlay unbroken=\my@theorem@overlay@unbroken{<environment name> \ thetcb<theorem counter>}{<your color>},
    overlay first=\my@theorem@overlay@first{<environment name> \ thetcb<theorem counter>}{<your color>},
    overlay last=\my@theorem@overlay@last{<your color>},
  },
}

<environment name>={
  counter=tcb<theorem counter>,
  the counter=\thesection\arabic{tcb<theorem counter>},
  autoref name=\bfseries <environment name>,
  style={
    arc=0mm,breakable,enhanced,interior style={top color=<your color>!12, middle color=<your color>!9, bottom color=<your color>!6}, arc=3pt, boxrule=0pt,top=7mm, bottom=5mm,
    fuzzy shadow={-0.6mm}{0.6mm}{0mm}{0.3mm}{white!50!gray},
    fuzzy shadow={0.6mm}{-0.6mm}{0mm}{0.3mm}{fill=white!40!gray},
    opacityframe=0, opacityback=0.98,
    fontupper=\normalsize, step={tcb<theorem counter>},
    before pre=\smallskip, after app=\smallskip,
    overlay unbroken=\my@lemma@overlay@unbroken{<environment name> \ thetcb<theorem counter>}{<your color>},
}
2.7. LIST ENVIRONMENT

Remark. Change the following parts:

<table>
<thead>
<tr>
<th>&lt;environment name&gt;</th>
<th>→</th>
<th>your new defined theorem name</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;theorem counter&gt;</td>
<td>→</td>
<td>your new defined theorem counter</td>
</tr>
<tr>
<td>&lt;your color&gt;</td>
<td>→</td>
<td>your new defined theorem color</td>
</tr>
</tbody>
</table>

Sec 2.7 list environment

This template is customizable with the help of \enumitem, see the \enumitem macro package documentation. Here are two examples.

- first item of nesti;
- second item of nesti;
  - first item of nestii;
  - second item of nestii;
  * first item of nestiii;
  * second item of nestiii.

1) first item of nesti;
2) second item of nesti;
(a) first item of nestii;
(b) second item of nestii;
i. first item of nestiii;
ii. second item of nestiii.

Sec 2.8 References

2.8.1 print reference

ref.bib is a file stored in the reference and needs to be placed in the working folder.

2.8.2 modify reference format

In addition, this template calls the Biblatex macro package and provides Biber engine to compile references. Of course, you can also directly delete the Biblatex macro package in cls file (the last few lines of cls) to use Bibtex.

For bib items, you can pick them up in Google Scholar, Mendeley, Endnote and add them to ref.bib. When quoting in the text, just quote their bib key.

The default reference style used by the template is “GB7714-2015”. There is a simple reference example.\cite{1}

If you need to set to a numeric style, you need to change the “GB7714-2015” in the biblatex macro package option to “numerical”.

\usepackage[
backend=biber, % can be changed to bibtex (or simply delete bibtex)
style=GB7714-2015, % can be changed to numerical
sorting=nty
]{biblatex}
\addbibresource{ref.bib}
Font options (Chinese users only, English users please do not omit the contents of this chapter.)

The reason why the font options are independent is that we hope that users of this template care about the fonts used by the template, know the fonts they use and encounter font-related problems more easily to find answers.

This template uses ctexbook class, so the fontset is consistent with it. The default option is fontset=windows. If not necessary, the font should not be changed. If you do have a need for third-party fonts, then you can set them up as follows.

1 \setCJKmainfont[Path=fonts/,BoldFont={XX.TTF},ItalicFont={YY.TTF}, SlantedFont = {ZZ.TTF} , SlantedFeatures = {FakeSlant}]{WW.TTF}
2 \setCJKsansfont[Path=fonts/,BoldFont={XX.TTF},ItalicFont={XX.TTF}]{XX.TTF}
3 \setCJKmonofont[Path=fonts/,BoldFont={XX.TTF},ItalicFont={XX.TTF}]{XX.TTF}
4 % Setting new CJK font family
5 \newCJKfontfamily[song]\songti{XX.TTF}[Path=fonts/]
6 % Setting new font family
7 \newfontfamily\largetitlestyle[Path=fonts/]{XX.TTF}