

中原大學  
○○○○學系  
○士○○○○

範例標題(TITLE)

Sample Title

指導教授：○○○

研究生：○○○

中華民國 ○○○ 年 ○ 月

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○士○○○○

範例標題(TITLE)

○○

中華民國  
○○○年  
○月

## 摘要

本文件修改自中原大學論文模板。

關鍵字：研究所、論文



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## Abstract

This is a modified CYCU thesis template.

**Keywords:** postgraduate, thesis



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## Acknowledgement

I want to extend my many thanks to the numerous individuals who provided online solutions for various syntax and compiling issues. These sources are documented as commented links in this  $\text{\LaTeX}$  source code template.



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# 1 Introduction

## 1.1 Description of template

This template was modified from the original version provided by Chung Yuan Christian University (CYCU) [1], written by Chen [2], and hosted on CYCU-AIoT-System-Lab [3].

## 1.2 Notes on usage

1. This template is **NOT** officially released or endorsed by CYCU. Please ensure that this template meets your requirements before use.
2. The creator of this template designed it to demonstrate  $\LaTeX$  usage, reduce time spent on error correction, and incorporate necessary elements. The creator is not responsible for any issues arising from its use.
3. This template is distributed under the **Apache License 2.0** [4]. If you believe there are any license violations, please contact the creator at [dachuan516@gmail.com](mailto:dachuan516@gmail.com).
4. Contributions are welcome and encouraged! If you have improvements or suggestions, please submit a pull request or reach out to the creator at [dachuan516@gmail.com](mailto:dachuan516@gmail.com).



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## 2 Syntax

### 2.1 Text

Display text in **bold**, *italic*, typewriter [5]. Note that underscores within “\texttt{ }” require to be escaped like “a\\_b”.

Embed website links with displaying text, <https://www.overleaf.com/learn/latex/Hyperlinks> [6].

Use different formats of list to display [7]:

- item 1

1. item 1

**Bold title** item 1

Use special characters like ✓, ✗ [8].

Embed code from file as figure, as shown in Fig. 2.1 and 2.2.

```
1 #!/bin/bash
2
3 echo "hello_world"
4 ping 8.8.8.8
```

Figure 2.1 Embed entire script file.

```
1 echo "hello_world"
2 ping 8.8.8.8
```

Figure 2.2 Embed selected lines script file.

### 2.2 Figure

Various tools can be use to create figures and are roughly classified as 1 (best) to 3 (worst) in Table 2.1.

Table 2.1 Assessment of different tools to create figures.

Tool	Time required	Ease of use	Adjustability	Image quality	Scripting
Mermaid (PDF) [9]	1	1	3	1	1
draw.io (PDF) [10]	2	1	2	1	3
GNU Plot (PDF) [11]	3	3	1	1	1
MS PowerPoint	2	1	2	3	3
L <sup>A</sup> T <sub>E</sub> X TikZ [12]	3	3	1	1	1

To embed a downloaded figure or figure created with external tools mentioned in Table 2.1, the following format can be used for PNG, JPG and PDF (best quality) format [13].

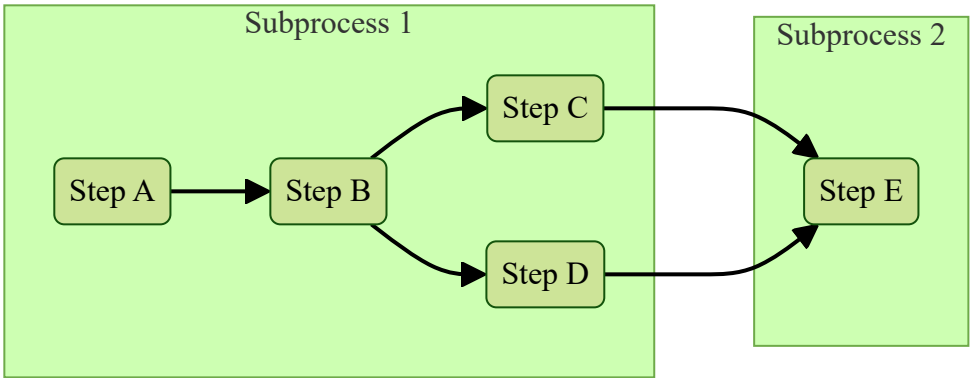


Figure 2.3 A example of embedding a PDF image.

To use TikZ in L<sup>A</sup>T<sub>E</sub>X, visit the Minimal Working Example (MWE) example page [14]. Additional packages will be needed and should be added in the `main.tex` file.

### 2.3 Table

A basic version of L<sup>A</sup>T<sub>E</sub>X two by two table with custom border is shown in Table 2.2; another table with specific column and row name is shown in Table 2.3; an additional table with merged rows and columns is shown in Table 2.4.

Table 2.2 Basic table.

cell	cell
cell	cell

Table 2.3 Table with column and row names.

	Column A	Column B
Row 1	cell	cell
Row 2	cell	cell

Table 2.4 Table with merged rows and columns.

	Column A	Column B
Row 1-2	cell	cell
	merged cell	
Row 3	cell	cell

If it is too confusing to edit the entire table manually, visit Table Generator for web-based Graphical User Interface (GUI) editor and copy the generated code into the document [15].

## 2.4 Equation

When displaying math symbols, they can be used inline like  $a + b = c$ . As shown in 2.1, it can be used to create complicated equations. It can use additional “aligned” environment to align multiple equations against certain location within equation with symbol &, as shown in 2.2.

$$a^2 + b_1 = \frac{\sum_{n=1}^m c_n}{d} \quad (2.1)$$

$$\begin{aligned} a_1 + b &= c \\ \sqrt{d} &= c \\ d &= \int_f^e x^5 dx + \alpha^{2^2} \end{aligned} \quad (2.2)$$

## 2.5 Algorithm

Algorithms can be expressed with basic usage of the “algorithm” environment, as shown in Algorithm 1. If it requires math expressions, inline expression can be mixed within, as shown in Algorithm 2 [16].

---

**Algorithm 1** Basic example of algorithm.

---

```
if condition A then
    state 1
else
    state 2
end if
```

---

---

**Algorithm 2** Advance example of algorithm.

---

```
if  $a + b + c > \text{threshold}$  then
     $a + b + c$  is too large
else
    Normal state
end if
```

---

## 2.6 Citation

When citing materials, the related information should be recorded in **BibTeX** format and stored in the file “reference.bib” which is specified by command “\{bibliography reference}” in “reference.tex”.

Different categories of source can now be referenced in the document including “books”, “journals & magazines”, and “conferences” [17, 18, 19]. Their corresponding authors can be cited with “Harding”, “Washizaki and Yoshioka”, “Allahabadi et al.”.

In some special cases, special symbols like “–” from ACM Digital Library in the “pages” field making the compiled result display pages with “p.” instead of “pp.” [20]. These special cases need to fix manually [21].

## 2.7 Custom commands and additional packages

The referencing to different sections within the document can be achieved with the following syntax: Fig. 2.1, Table 2.1, 2.1 (equation), Algorithm 1, Section 2.7.

However, typing every single prefix of references is troublesome and error-prone. Another default syntax “\autoref” can be used to achieve the same effect: Fig. 2.1, Table 2.1, 2.1 (equation), Algorithm 1, Section 2.7. This requires the changes of “autorefname” in `main.tex`, and have the downside of unable to combine multiple references together.

To overcome the downside of “\autoref”, “\Cref” can be used instead: Fig. 2.1–2.3, tables 2.1–2.4, (2.1) and (2.2), and algorithms 1 and 2. Note that escaping underscores used in “\Cref” like “\\_” will result in error.

For both “\autoref” and “\Cref”, their automatically added prefix can be adjusted with “autorefname” and “\crefname” correspondingly, and are configured in `main.tex`.

Keywords for both English (“\keywords”) and Chinese (“\keywordscn”) can be achieved with the special commands set in `main.tex`. Example of these are shown in `abstract_English.tex` and `abstract_Chinese.tex`.

The default layer of section are “\section”, “\subsection”, “\subsubsection”, and “\paragraph”. “\paragraph” is modified in this template to fit and number correctly.

Additional package “csquotes” is used for the “\enquote” command (“quotes”). Package “nth” is used for the “\nth” command (5<sup>th</sup>). Package “xurl” is used so that command “\href{}{}” and “\url{}” still can have line wrap (`https://this.is.a.super.long.link.that.does.not.link.to.anything.but.to.trigger.line.wrap`).

# Appendices

## A Links

Table A.1 List of question links used in this template.

No.	Parameter
1	<a href="https://tex.stackexchange.com/questions/286094/insert-code-keywords-inline">https://tex.stackexchange.com/questions/286094/insert-code-keywords-inline</a>
2	<a href="https://tex.stackexchange.com/questions/197507/listings-escapeinside-option-is-not-working-for-me">https://tex.stackexchange.com/questions/197507/listings-escapeinside-option-is-not-working-for-me</a>
3	<a href="https://tex.stackexchange.com/questions/313507/autoref-for-algorithms">https://tex.stackexchange.com/questions/313507/autoref-for-algorithms</a>
4	<a href="https://tex.stackexchange.com/questions/142687/customize-of-autoref">https://tex.stackexchange.com/questions/142687/customize-of-autoref</a>
5	<a href="https://tex.stackexchange.com/questions/20698/reference-multiple-subfloated-figures-using-refx-y-z-to-give-fig-1a-1b-1c-in">https://tex.stackexchange.com/questions/20698/reference-multiple-subfloated-figures-using-refx-y-z-to-give-fig-1a-1b-1c-in</a>
6	<a href="https://tex.stackexchange.com/questions/144759/how-to-modify-the-label-output-in-cleveref-and-varioref">https://tex.stackexchange.com/questions/144759/how-to-modify-the-label-output-in-cleveref-and-varioref</a>
7	<a href="https://ctan.mirror.twds.com.tw/tex-archive/macros/latex/contrib/cleveref/cleveref.pdf">https://ctan.mirror.twds.com.tw/tex-archive/macros/latex/contrib/cleveref/cleveref.pdf</a>
8	<a href="https://tex.stackexchange.com/questions/381119/how-to-make-a-range-reference-use-an-en-dash">https://tex.stackexchange.com/questions/381119/how-to-make-a-range-reference-use-an-en-dash</a>
9	<a href="https://tex.stackexchange.com/questions/508107/lines-abstract-keyword">https://tex.stackexchange.com/questions/508107/lines-abstract-keyword</a>
10	<a href="https://tex.stackexchange.com/questions/69379/how-do-i-cite-author-in-latex">https://tex.stackexchange.com/questions/69379/how-do-i-cite-author-in-latex</a>
11	<a href="https://www.overleaf.com/learn/latex/Bibliography_management_with_natbib">https://www.overleaf.com/learn/latex/Bibliography_management_with_natbib</a>
12	<a href="https://tex.stackexchange.com/questions/61877/natbib-sorting-and-citation-order-by-appearance">https://tex.stackexchange.com/questions/61877/natbib-sorting-and-citation-order-by-appearance</a>
13	<a href="https://en.wikibooks.org/wiki/LaTeX/Special_Characters">https://en.wikibooks.org/wiki/LaTeX/Special_Characters</a>
14	<a href="https://tex.stackexchange.com/questions/72945/how-to-merge-cells-vertically">https://tex.stackexchange.com/questions/72945/how-to-merge-cells-vertically</a>
15	<a href="https://tex.stackexchange.com/questions/4118/whats-the-quickest-way-to-write-2nd-3rd-etc-in-latex">https://tex.stackexchange.com/questions/4118/whats-the-quickest-way-to-write-2nd-3rd-etc-in-latex</a>
16	<a href="https://tex.stackexchange.com/questions/3033/forcing-linebreaks-in-url">https://tex.stackexchange.com/questions/3033/forcing-linebreaks-in-url</a>
17	<a href="https://tex.stackexchange.com/questions/2099/how-to-include-svg-diagrams-in-latex">https://tex.stackexchange.com/questions/2099/how-to-include-svg-diagrams-in-latex</a>
18	<a href="https://graphicdesign.stackexchange.com/questions/5880/how-to-export-an-inkscape-svg-file-to-a-pdf-and-maintain-the-integrity-of-the-image">https://graphicdesign.stackexchange.com/questions/5880/how-to-export-an-inkscape-svg-file-to-a-pdf-and-maintain-the-integrity-of-the-image</a>
19	<a href="https://tw.mirrors.cicku.me/ctan/macros/xetex/latex/xecjk/xecjk.pdf">https://tw.mirrors.cicku.me/ctan/macros/xetex/latex/xecjk/xecjk.pdf</a>
20	<a href="https://tex.stackexchange.com/a/60218">https://tex.stackexchange.com/a/60218</a>