

LATEX

Support

Learning

Desk

staff Dohui WOO

Latex

Dohui Woo

October 11, 2019

1 Introduction

There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened.



Figure 1: The Universe

2 Conclusion

"I always thought something was fundamentally wrong with the universe" [1]

References

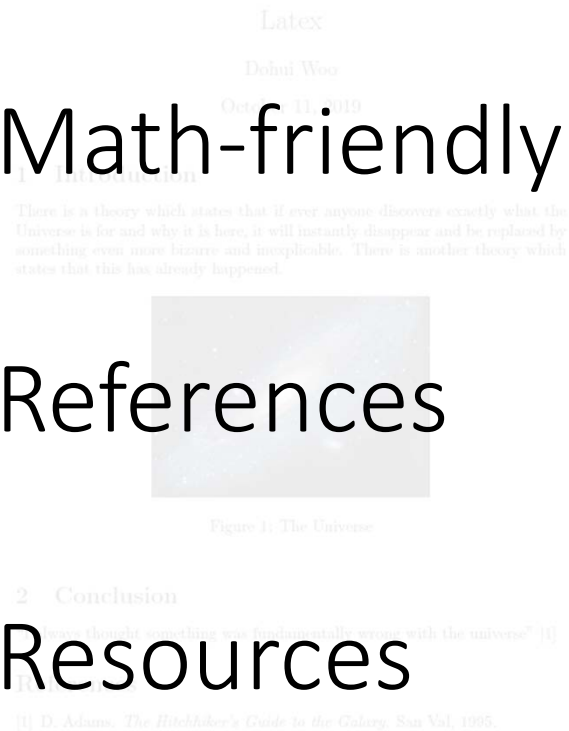
[1] D. Adams. *The Hitchhiker's Guide to the Galaxy*. San Val, 1995.

```
1 \documentclass{article}
2 \usepackage[utf8]{inputenc}
3
4 \title{Latex}\author{Dohui Woo}\date{\today}
5
6 \usepackage{natbib, graphicx}
7
8 \begin{document}
9
10 \maketitle
11
12 \section{Introduction}
13 There is a theory which states
14 that if ever anyone discovers exactly what the Universe is for
15 and why it is here,
16 it will instantly disappear and be replaced
17 by something even more bizarre and inexplicable.
18 There is another theory
19 which states that this has already happened.
20
21 \begin{figure}[h!]
22 \centering
23 \includegraphics[scale=1.7]{universe}
24 \caption{The Universe}
25 \label{fig:universe}
26 \end{figure}
27
28 \section{Conclusion}
29 ``I always thought something was fundamentally wrong
30 with the universe'' \citep{adams1995hitchhiker}
31
32 \bibliographystyle{plain}
33 \bibliography{references}
34 \end{document}
35
```

✓ Math-friendly

✓ References

✓ Resources



I know it's ugly

Suit for
Academia

```
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LaTeX, Evolved

Use, online, collaborative LaTeX editor

① Register

The screenshot shows the Overleaf LaTeX editor interface. The document title is 'The Universe'. The left sidebar shows a file explorer with 'main.tex' selected. The main editor area is split into 'Source' and 'Recompile' views. A white box with a black border is overlaid on the source view, containing the text 'overleaf.com'. Below the editor, there is a 'Get started now' section with a registration form. The form includes an email input field with 'email@example.com', a password input field, and a 'Register' button. A checkbox is checked, with the text 'I'd like emails about product offers and company news and events.'

② overleaf.com

③ New file → create a *.tex file

Get started now

email@example.com

password

Register

I'd like emails about product offers and company news and events.

- \
- preamble

Settings

`\` for special use

functions

`\tableofcontents`

symbols

`\alpha`

user-specified functions

`\newcommand`



Preamble

Set up environments you need
before you start

- ✓ document class
- ✓ packages
- ✓ others

document **Class**

¥documentclass{article}

: determines the purpose of the document

- article
- report
- book

Packages to import ¥usepackage{kotex}

: brings the functions you need

- geometry
- graphicx
- natbib

&etc., set title, indent length, or line space, or declare your function

Preamble

```
¥documentclass{article}
¥usepackage[hangul]{kotex}
¥usepackage[top = 2cm]{geometry}
¥usepackage{natbib, graphicx}
¥geometry{bottom = 0cm, nofoot}
¥title{An Introduction to LaTeX}
¥author{Dohui Woo}
¥date{}
```

- ✓ document class
- ✓ packages
- ✓ others

Preamble

```
¥documentclass{article}
```

```
¥begin{document}
```

something

you want

to write

in your paper

like, Auuugh!

```
¥end{document}
```

✓ document class

unomittable

Package “geometry”

options : top, bottom, left, right, ...,
onecolumn, twocolumn,...

```
¥usepackage[option(s)]{geometry}
```

Set **Title**, author(s), date

¥title{A Striking Title}

% you can't omit this item
when you're making a title

¥author{Alice ¥and Bob}

¥date{¥today}

maketitle

¥maketitle

- Structure
- Math
- Tables
- Figures
- References

Contents

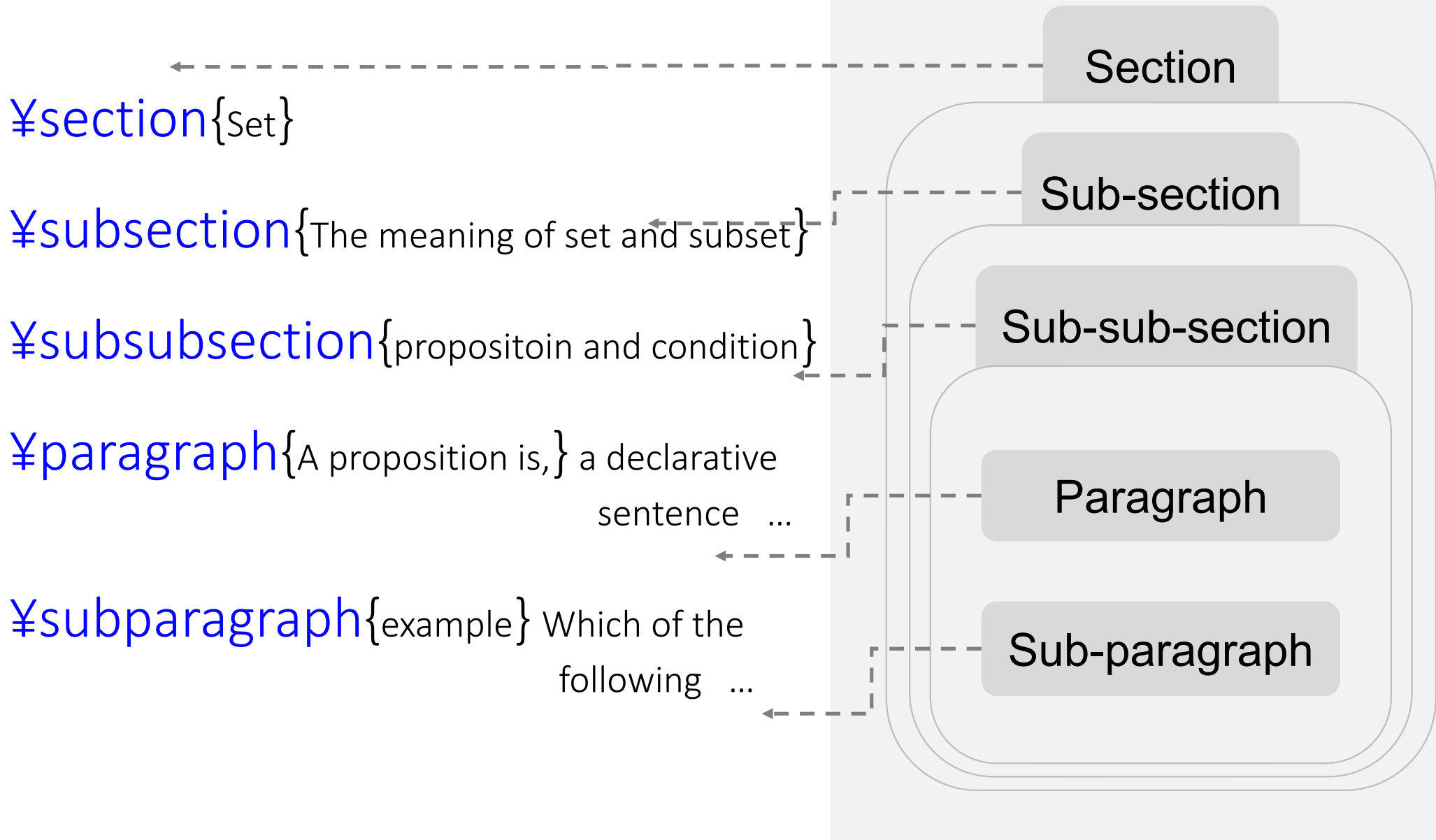
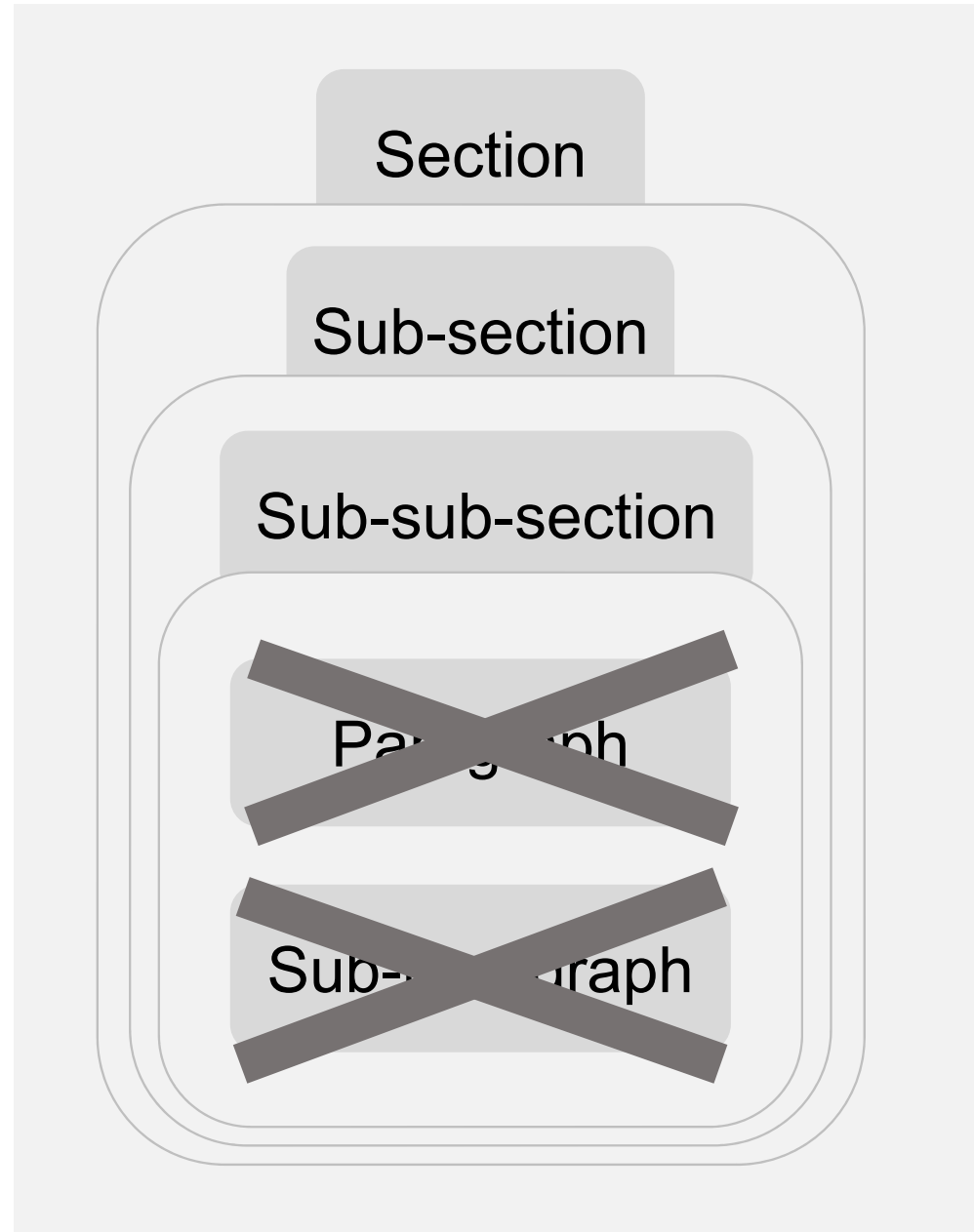


Table of contents

1 Set	3
1.1 Set and subset.	3
1.1.1 proposition and condition.	3

`¥tableofcontents`



The solution of $ax^2 + bx + c = 0$ ($a \neq 0$) is,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad (1)$$

```
1 \documentclass{article}
2 \begin{document}
3 ax^2
4 \end{document}
```

**Missing \$
inserted.**

✓ Math mode

- **`$ math $` : words**

The kinetic energy **`K`** of an object with a mass **`m`** moving with a velocity **`v`** is

- **`\[math \]` : phrases**

`\[\frac{1}{2} mv^2 \]`

The solutions of $ax^2 + bx + c = 0$ ($a \neq 0$) is,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

The solutions of $ax^2 + bx + c = 0$ ($a \neq 0$) is,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

✓ tabular environment

```
¥begin{tabular}{||c|r|}  
  ¥hline  
  A1 & B1 & C1 ¥¥ ¥hline  
  A2 & B2 & C2 ¥¥ ¥hline  
¥end{tabular}
```

A1	B1	C1
A2	B2	C2

✓ tablesgenerator

✓ table environment

```
¥begin{table}  
  ¥caption{your caption}  
  ¥begin{tabular}{||c|r|}  
    ...  
  ¥end{tabular}  
¥end{table}
```

Table1. your caption

A1	B1	C1
A2	B2	C2

Table1. Prisoners' dilemma

	C	D
C	(1, 1)	(0,10)
D	(10,0)	(1, 1)

✓ Package `graphicx`

✓ `figure` environment

```
¥usepackage{graphicx}
```

```
¥begin{figure}
```

```
¥includegraphics{universe}
```

```
¥caption{pic of universe}
```

```
¥end{figure}
```

✓ Location : h(ere), t(op), b(ottom), p(age)

```
¥begin{figure}[option]
```

✓ Size : width, height, scale

```
¥includegraphics[option] {figure}
```


Tag a Label

```
¥begin{figure}  
  ...  
  ¥label{uni}  
  ...  
¥end{figure}
```



Fig. 1: Yay! Universe!

Figure. 1 was taken when I was travelling the universe.

Refer

Figure. [¥ref{uni}](#) is taken when I was travelling the universe.



Figure 1: The Universe

2 Conclusion

“I always thought something was fundamentally wrong with the universe” [1]

References

[1] D. Adams. *The Hitchhiker's Guide to the Galaxy*. San Val, 1995.

✓ quote

✓ references

Menu ↑ f Ab Review Share Submit History Cha

Add Files

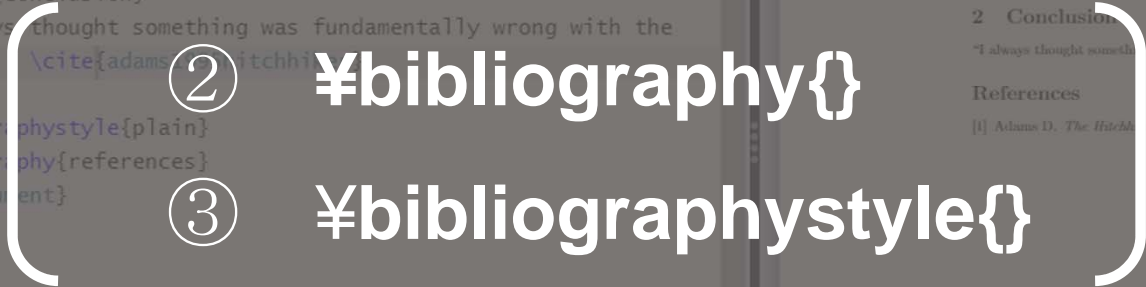
- New File
- Upload
- From Another Project
- From External URL
- From Mendeley
- From Zotero

File Name: name.bib

① *.bib file

Cancel Create

add



in main text

```
22 \caption{The Universe}
23 \label{fig:universe}
24 \end{figure}
25
26 \section{Conclusion}
27 "I always thought something was fundamentally wrong with the
  universe" \cite{adams}
28
29 \bibliographystyle{plain}
30 \bibliography{references}
31 \end{document}
```

Figure 1: The Universe

2 Conclusion

"I always thought something was fundamentally wrong with the universe" [1]

References

[1] Adams D. *The Hitchhiker's Guide to the Galaxy*

```
@book{davis2017selfish,  
  title={The selfish gene},  
  author={Davis, Nicola},  
  year={2017},  
  publisher={Macat Library}  
}
```

```
@book{adams1995hitchhiker,  
title={The Hitchhiker's Guide to the Galaxy},  
author={Adams D.d},  
isbn={9781417642595},  
year={1995},  
publisher={San Val}}
```

```
@book{davis2017selfish,  
title={The selfish gene},  
author={Davis, Nicola},  
year={2017},  
publisher={Macat Library}}
```

Key

- Refer a document using Key
- Changeable

¥bibliographystyle{plain}

Numbered

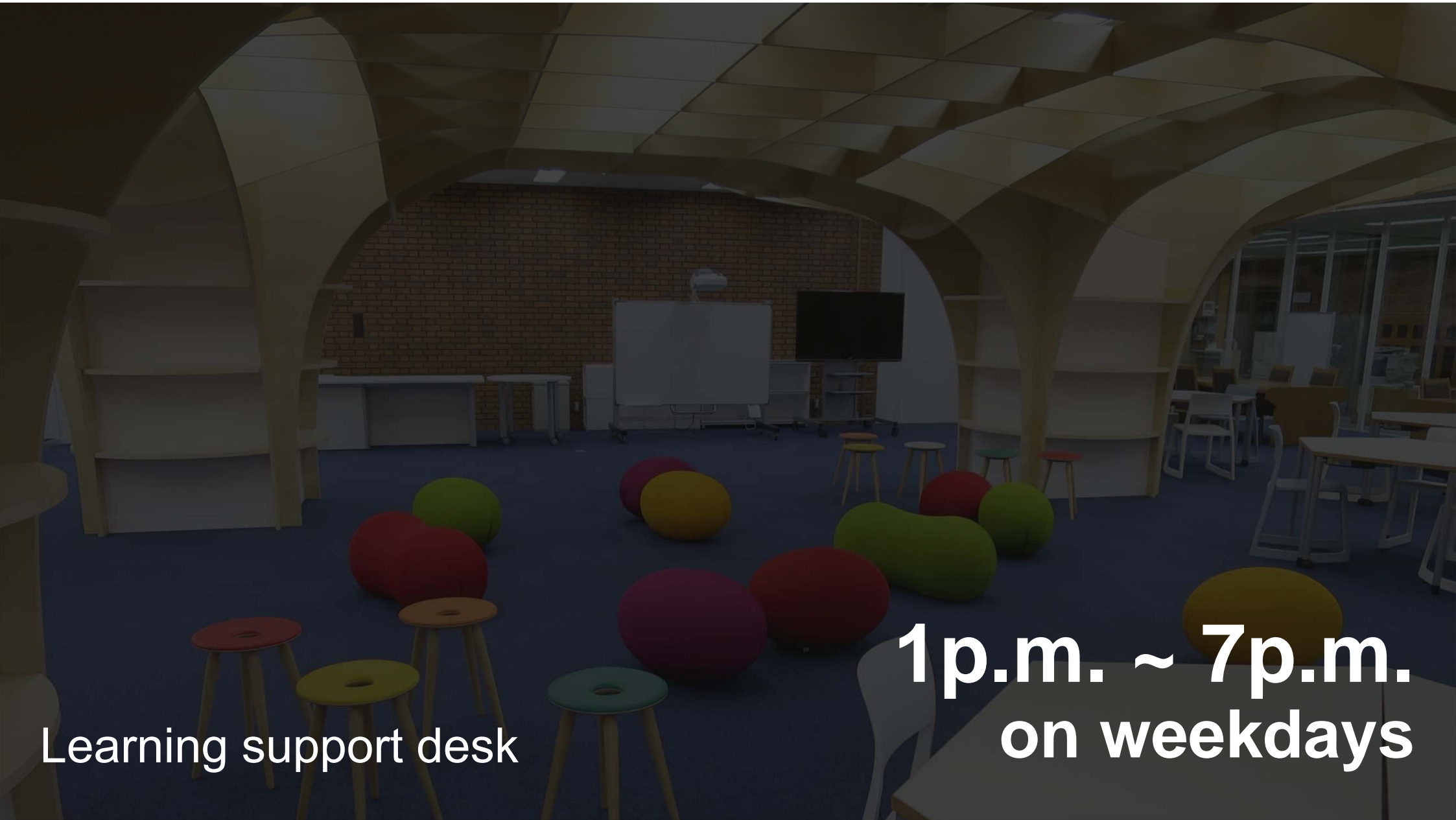
cite with parentheses ¥citep{Key} ► [1]

¥bibliographystyle{plainnat}

Author-year

¥citep{Key} ► [Alonso et al., 2008]

cite within text ¥citet{Key} ► Alonso et al. [2008]



Learning support desk

**1p.m. ~ 7p.m.
on weekdays**

✓ LaTeX

✓ Add “latexmkrc”

```
$latex = 'platex';  
$bibtex = 'pbibtex';  
$dvi2pdf = 'dvi2pdf %O -o %D %S';  
$makeindex = 'makeindex %O -o %D %S';
```

www.overleaf.com/learn/latex/Japanese ←copy and paste

α	$\forall\alpha$	
a^x	$\forall a^x$	
\sqrt{a}	$\forall\text{sqrt}\{a\}$	<u>s</u>quare <u>r</u>oot
$\frac{1}{2}$	$\forall\text{frac}\{1\}\{2\}$	<u>f</u>raction
\neq	$\forall\text{neq}$	<u>n</u>ot <u>e</u>qual to
\geq	$\forall\text{ge}$	greater than or <u>e</u>qual to

- **$\forall\text{begin}\{\text{equation}\}...\forall\text{end}\{\text{equation}\}$**