The whatsnote Class*

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1 Introduction

The whatsnote LaTeX class provides an elegant layout and powerful tools for taking notes in science, engineering, etc. It supports various compilation methods, such as pdfLaTeX, XeLaTeX, ApLaTeX, LuaLaTeX, etc.

2 Usage

To load this class, write the line

```
\documentclass{whatsnote}
```

2.1 Cover configuration

`\coverset` `\coverset {⟨keys⟩}`

The `\coverset` command accepts the following keys in its argument

title = ⟨*string*⟩ can set the title on the cover page.

author, **afill** = ⟨*string*⟩ can set the author and the affliction respectively on the cover page, and they will be combined together with a vertical bar separated.

date = ⟨*string*⟩ can set the date on the cover page.

extinfo = ⟨*string*⟩ can add contents at the south east corner of the cover page (e.g., add your personal seal ("Yìn Zhāng" in Chinese)).

head = ⟨*file*⟩ can add a picture at the top of the cover page.

cloto = ⟨*file*⟩ can add a picture at the center cover page's white area.

llogos = ⟨*files' comma list*⟩ can add a series of pictures at the "left bar" of the title page.

*https://github.com/myhsia/whatsnote, https://ctan.org/pkg/whatsnote

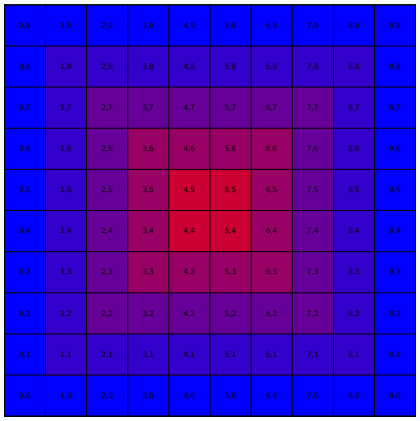
3 Working Example

```
\documentclass[11pt]{whatsnote}

\usepackage[versionfa = 7, hook]{fontawesomescaled}
\usepackage{duckuments}
\coverset{
  title   = Demo for the \textsc{WhatsNote} Package,
  author  = \ttfamily \textsc{Mingyu Xia},
  afill   = <\href{mailto:xiamingyu@westlake.edu.cn}
              {xiamingyu@westlake.edu.cn}>,
  date    = November 2025,
  extinfo = {\href{https://github.com/myhsia/whatsnote}
              {\faIconScaled[scale = 4]{github}}},
  head    = example-image-golden.pdf,
  clogo   = example-grid-100x100pt.pdf,
  llogos  = {example-image-duck, example-image-duck,
             example-image-duck, example-image-duck}
}

\begin{document}

\maketitle[teal]
\frontmatter \tableofcontents \mainmatter

\duckument[full]

\end{document}
```

Golden ratio

(Original size: 32.361×200 bp)

Demo for the WhatsNote Package



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Chapter 1 A friendly duck at level 0 (chapter)

There once was a very smart but sadly blind duck. When it was still a small duckling it was renowned for its good vision. But sadly as the duck grew older it caught a sickness which caused its eyesight to worsen. It became so bad, that the duck couldn't read the notes it once took containing much of inline math. Only displayed equations remained legible. That annoyed the smart duck, as it wasn't able to do its research any longer. It called for its underduckling and said: "Go, find me the best eye ducktor there is. He shall heal me from my disease!"

"But my duck, how are you supposed to manage your daily routines without my visual guidance", replied the underduckling. The smart duck's face turned grim in anger. "You dare to talk back?" The underduckling blushed ashamed. How could he have objections after his duck gave strict orders? The underduckling was so embarrassed about his own behaviour he had to solve an equation.

After the equation was solved and the underduckling prepared his leave for the next day it fell asleep in a shaky mood. It did not know what the journey had prepared for him and if he was prepared enough for it. His sleep was restless. The dreams he had that night were not calm and bright as they used to be for an innocent underduckling.

Before dawn the underduckling woke. He didn't have the feeling of being well rested. But nonetheless he knew that this was the day he should leave. Except saying goodbye to his beloved ones there was nothing holding him back. His duck had sent him on the most important mission a five weeks old inexperienced underduckling was ever sent on. He bid farewell to his mother, all his brothers and sisters, and finally from his duck. The bag was shouldered, the boots were tied, the underduckling left.

As the underduckling went along he saw a tree. It was so tall he couldn't even approximate its height. Oh, how small he felt. What should he, a small duckling whose plumage was still fluffy, achieve in this vast, gigantic world? He stuck his trembling wings under the straps of his backpack to calm his shaking limbs. Where should he start his search? How should he survive in the hostile nature surrounding the sheltered pond of his community?

1.1 A friendly duck at level 1 (section)

There once was a very smart but sadly blind duck. When it was still a small duckling it was renowned for its good vision. But sadly as the duck grew older it caught a sickness which caused its eyesight to worsen. It became so bad, that the duck couldn't read the notes it once took containing much of inline math. Only displayed equations remained legible. That annoyed the smart duck, as it wasn't able to do its research any longer. It called for its underduckling and said: "Go, find me the best eye ducktor there is. He shall heal me from my disease!"

"But my duck, how are you supposed to manage your daily routines without my visual guidance", replied the underduckling. The smart duck's face turned grim in anger. "You dare to talk back?" The underduckling

blushed ashamed. How could he have objections after his duck gave strict orders? The underduckling was so embarrassed about his own behaviour he had to solve an equation.
After the equation was solved and the underduckling prepared his leave for the next day it fell asleep in a shaky mood. It did not know what the journey had prepared for him and if he was prepared enough for it. His sleep was restless. The dreams he had that night were not calm and bright as they used to be for an innocent underduckling.
Before dawn the underduckling woke. He didn't have the feeling of being well rested. But nonetheless he knew that this was the day he should leave. Except saying goodbye to his beloved ones there was nothing holding him back. His duck had sent him on the most important mission a five weeks old inexperienced underduckling was ever sent on. He bid farewell to his mother, all his brothers and sisters, and finally from his duck. The bag was shouldered, the boots were tied, the underduckling left.
As the underduckling went along he saw a tree. It was so tall he couldn't even approximate its height. Oh, how small he felt. What should he, a small duckling whose plumage was still fluffy, achieve in this vast, gigantic world? He stuck his trembling wings under the straps of his backpack to calm his shaking limbs. Where should he start his search? How should he survive in the hostile nature surrounding the sheltered pond of his community?

1.1.1 A friendly duck at level 2 (subsection)

There once was a very smart but sadly blind duck. When it was still a small duckling it was renowned for its good vision. But sadly as the duck grew older it caught a sickness which caused its eyesight to worsen. It became so bad, that the duck couldn't read the notes it once took containing much of inline math. Only displayed equations remained legible. That annoyed the smart duck, as it wasn't able to do its research any longer. It called for its underduckling and said: "Go, find me the best eye ducktor there is. He shall heal me from my disease!"
"But my duck, how are you supposed to manage your daily routines without my visual guidance", replied the underduckling. The smart duck's face turned grim in anger. "You dare to talk back?" The underduckling blushed ashamed. How could he have objections after his duck gave strict orders? The underduckling was so embarrassed about his own behaviour he had to solve an equation.
After the equation was solved and the underduckling prepared his leave for the next day it fell asleep in a shaky mood. It did not know what the journey had prepared for him and if he was prepared enough for it. His sleep was restless. The dreams he had that night were not calm and bright as they used to be for an innocent underduckling.
Before dawn the underduckling woke. He didn't have the feeling of being well rested. But nonetheless he knew that this was the day he should leave. Except saying goodbye to his beloved ones there was nothing holding him back. His duck had sent him on the most important mission a five weeks old inexperienced underduckling was ever sent on. He bid farewell to his mother, all his brothers and sisters, and finally from his duck. The bag was shouldered, the boots were tied, the underduckling left.
As the underduckling went along he saw a tree. It was so tall he couldn't even approximate its height. Oh, how small he felt. What should he, a small duckling whose plumage was still fluffy, achieve in this vast,

Demo for the WhatsNote Package
Demo for the WhatsNote Package

gigantic world? He stuck his trembling wings under the straps of his backpack to calm his shaking limbs. Where should he start his search? How should he survive in the hostile nature surrounding the sheltered pond of his community?

A friendly duck at level 3 (subsubsection)

There once was a very smart but sadly blind duck. When it was still a small duckling it was renowned for its good vision. But sadly as the duck grew older it caught a sickness which caused its eyesight to worsen. It became so bad, that the duck couldn't read the notes it once took containing much of inline math. Only displayed equations remained legible. That annoyed the smart duck, as it wasn't able to do its research any longer. It called for its underduckling and said: "Go, find me the best eye ducktor there is. He shall heal me from my disease!"
"But my duck, how are you supposed to manage your daily routines without my visual guidance", replied the underduckling. The smart duck's face turned grim in anger. "You dare to talk back?" The underduckling blushed ashamed. How could he have objections after his duck gave strict orders? The underduckling was so embarrassed about his own behaviour he had to solve an equation.
After the equation was solved and the underduckling prepared his leave for the next day it fell asleep in a shaky mood. It did not know what the journey had prepared for him and if he was prepared enough for it. His sleep was restless. The dreams he had that night were not calm and bright as they used to be for an innocent underduckling.
Before dawn the underduckling woke. He didn't have the feeling of being well rested. But nonetheless he knew that this was the day he should leave. Except saying goodbye to his beloved ones there was nothing holding him back. His duck had sent him on the most important mission a five weeks old inexperienced underduckling was ever sent on. He bid farewell to his mother, all his brothers and sisters, and finally from his duck. The bag was shouldered, the boots were tied, the underduckling left.
As the underduckling went along he saw a tree. It was so tall he couldn't even approximate its height. Oh, how small he felt. What should he, a small duckling whose plumage was still fluffy, achieve in this vast, gigantic world? He stuck his trembling wings under the straps of his backpack to calm his shaking limbs. Where should he start his search? How should he survive in the hostile nature surrounding the sheltered pond of his community?

A friendly duck at level 4 (paragraph) There once was a very smart but sadly blind duck. When it was still a small duckling it was renowned for its good vision. But sadly as the duck grew older it caught a sickness which caused its eyesight to worsen. It became so bad, that the duck couldn't read the notes it once took containing much of inline math. Only displayed equations remained legible. That annoyed the smart duck, as it wasn't able to do its research any longer. It called for its underduckling and said: "Go, find me the best eye ducktor there is. He shall heal me from my disease!"
"But my duck, how are you supposed to manage your daily routines without my visual guidance", replied the underduckling. The smart duck's face turned grim in anger. "You dare to talk back?" The underduckling blushed ashamed. How could he have objections after his duck gave strict orders? The underduckling was so embarrassed about his own behaviour he had to solve an equation.

After the equation was solved and the underduckling prepared his leave for the next day it fell asleep in a shaky mood. It did not know what the journey had prepared for him and if he was prepared enough for it. His sleep was restless. The dreams he had that night were not calm and bright as they used to be for an innocent underduckling.
Before dawn the underduckling woke. He didn't have the feeling of being well rested. But nonetheless he knew that this was the day he should leave. Except saying goodbye to his beloved ones there was nothing holding him back. His duck had sent him on the most important mission a five weeks old inexperienced underduckling was ever sent on. He bid farewell to his mother, all his brothers and sisters, and finally from his duck. The bag was shouldered, the boots were tied, the underduckling left.
As the underduckling went along he saw a tree. It was so tall he couldn't even approximate its height. Oh, how small he felt. What should he, a small duckling whose plumage was still fluffy, achieve in this vast, gigantic world? He stuck his trembling wings under the straps of his backpack to calm his shaking limbs. Where should he start his search? How should he survive in the hostile nature surrounding the sheltered pond of his community?

1.2 Lists

1.2.1 Example for ducks (itemize)

- First swims father drake
- Then floats mother duck
- After her paddles baby duckling
- And over there bathes uncle canard

Nested ducks

- swimming father drake
  - swimming father drake
    - swimming father drake
      - swimming father drake
      - floating mother duck
    - floating mother duck
  - floating mother duck
- floating mother duck

Demo for the WhatsNote Package
Demo for the WhatsNote Package

1.2.2 Example for ducks (enumerate)

1. First swims father drake
2. Then floats mother duck
3. After her paddles baby duckling
4. And over there bathes uncle canard

Nested ducks

1. swimming father drake
   (a) swimming father drake
      i. swimming father drake
         A. swimming father drake
         B. floating mother duck
      ii. floating mother duck
   (b) floating mother duck
2. floating mother duck

1.2.3 Example for ducks (description)

drake is the swimming father

duck is the floating mother

duckling is the paddling baby

canard is the bathing uncle

Nested ducks

drake is the swimming father

drake is the swimming father
drake is the swimming father
drake is the swimming father
drake is the swimming father
duck is the floating mother
duck is the floating mother
duck is the floating mother

duck is the floating mother

A The Source Code

⟨@@=whats⟩

A.1 The `whatsnote.cls` file

⟨∗class⟩

```
\def \whatsnote@date    {2025-11-10}
\def \whatsnote@version {v5.0A}
\ProvidesExplPackage {whatsnote} {2025-11-10} {v5.0A}
  {LaTeX class for taking notes in science, engineering, etc.}

\cs_new_protected:Npn \whatsnote_msg_new:nn #1#2
  { \msg_new:nnn { whatsnote } {#1} {#2} }
\cs_new_protected:Npn \whatsnote_msg_error:nn #1#2
  { \msg_error:nnn { whatsnote } {#1} {#2} }
\cs_generate_variant:Nn \whatsnote_msg_error:nn { nx }
\whatsnote_msg_new:nn { not found module }
  { The ~ whats ~ module ~ `#1' ~ not ~ found. }
\cs_new_protected_nopar:Npn \whatsnote_provide_module:n #1
  {
    \ProvidesExplFile {Whats-#1-module.code.tex}
      {\whatsnote@date} {\whatsnote@version}
      { WhatsNote ~ \text_titlecase:n {#1} ~ Module }
  }
\cs_new_protected_nopar:Npn \whatsnote_load_module:n #1
  {
    \clist_map_inline:nn {#1}
      {
        \file_if_exist_input:nF { Whats-##1-module.code.tex }
          { \whatsnote_msg_error:nn { not found module } {##1} }
      }
  }
\clist_new:N \g__whats_base_class_options_clist
\keys_define:nn { whats / classoption }
  {
    darkmode .bool_set:N    = \g__whats_darkmode_bool,
      darkmode .initial:n   = false,
      darkmode .default:n   = true,
    unknown .code:n         = \__whats_unknown_option:n { #1 },
  }
\cs_new_protected_nopar:Npn \__whats_unknown_option:n #1
  {
    \tl_if_empty:nTF { #1 }
      { \clist_gput_right:NV \g__whats_base_class_options_clist \l_keys_key_str }
      {
        \exp_args:NNx \clist_gput_right:Nn \g__whats_base_class_options_clist
          { \l_keys_key_str = \exp_not:n {#1} }
      }
  }
\ProcessKeyOptions [ whats / classoption ]
\PassOptionsToClass { book } { 11pt }
\PassOptionsToPackage { svgnames } { xcolor }
\exp_args:NNV \LoadClass [ \g__whats_base_class_options_clist ] { book }
\whatsnote_load_module:n { typeset, layout, theorem, cover }
```

```
\file_input_stop:
```
⟨/class⟩

A.2 The `whats-typeset-module.code.tex` file

⟨*typeset⟩

```
\whatsnote_provide_module:n { typeset }
\RequirePackage{amssymb, bbm, bm, cancel, extarrows,
                mathtools, nicematrix, xfrac}
\RequirePackage[e]{esvect}
\let \vec \vv
\DeclareRobustCommand \cev [1]{{\mathpalette\do@cev{#1}}}
\newcommand \do@cev [2]{
  \vbox{\offinterlineskip
    \ialign{##\cr
      \hidewidth\reflectbox{$\m@th#1\vec{}\mkern4mu$}\hidewidth\cr
      $\m@th#1#2$\cr
    }
  }
}
\sys_if_engine_xetex:T { \PassOptionsToPackage { no-math } { fontspec } }
\RequirePackage{fixdif, derivative}
\newdif \D {\mathsf D}
\newdif \upe {\mathrm e}
\newdif \iu {\mathrm i \mkern1mu}
\RequirePackage{siunitx}
\DeclareSIUnit \angstrom {\text \AA}
\let \sinh \relax \let \cosh \relax \let \tanh \relax \let \coth \relax
\DeclareMathOperator \sinh  {sh}
\DeclareMathOperator \cosh  {ch}
\DeclareMathOperator \tanh  {th}
\DeclareMathOperator \coth  {cth}
\DeclareMathOperator \sgn   {sgn}
\DeclareMathOperator \cotan {\qopname\relax o{ctg}}
\DeclareMathOperator \im    {im}
\DeclareMathOperator \adj   {adj}
\DeclareRobustCommand \tran{^{\mkern-1.5mu\mathsf T}}
\DeclareRobustCommand \identity {\ensuremath{\mathbbm 1}}
\RequirePackage[version = 4]{mhchem}
\RequirePackage{physics2}
\usephysicsmodule{ab, ab.braket, diagmat, xmat, qtext.legacy, op.legacy}
\DeclareRobustCommand \bra
  {\@ifstar{\phy@d@lx{br.m}{br.a}}{\phy@d@lx{br.m}{br.a}*}}
\DeclareRobustCommand \ket
  {\@ifstar{\phy@d@lx{kt.m}{kt.a}}{\phy@d@lx{kt.m}{kt.a}*}}
\DeclareRobustCommand \braket
  {\@ifstar{\phy@d@lx{bk.m}{bk.a}}{\phy@d@lx{bk.m}{bk.a}*}}
\DeclareRobustCommand \ketbra
  {\@ifstar{\phy@d@lx{kb.m}{kb.a}}{\phy@d@lx{kb.m}{kb.a}*}}
\DeclareDocumentCommand \diagmat { s O{} m }
  {
    \IfBooleanTF {#1}
      { \__phy_diagmat_type:nnn {  small } {#2} {#3} }
      { \__phy_diagmat_type:nnn {        } {#2} {#3} }
```

```
  }
\DeclareDocumentCommand \pdiagmat { s O{} m }
  {
    \IfBooleanTF {#1}
      { \__phy_diagmat_type:nnn { psmall } {#2} {#3} }
      { \__phy_diagmat_type:nnn { p      } {#2} {#3} }
  }
\DeclareDocumentCommand \bdiagmat { s O{} m }
  {
    \IfBooleanTF {#1}
      { \__phy_diagmat_type:nnn { bsmall } {#2} {#3} }
      { \__phy_diagmat_type:nnn { b      } {#2} {#3} }
  }
\DeclareDocumentCommand \Bdiagmat { s O{} m }
  {
    \IfBooleanTF {#1}
      { \__phy_diagmat_type:nnn { Bsmall } {#2} {#3} }
      { \__phy_diagmat_type:nnn { B      } {#2} {#3} }
  }
\DeclareDocumentCommand \vdiagmat { s O{} m }
  {
    \IfBooleanTF {#1}
      { \__phy_diagmat_type:nnn { vsmall } {#2} {#3} }
      { \__phy_diagmat_type:nnn { v      } {#2} {#3} }
  }
\DeclareDocumentCommand \Vdiagmat { s O{} m }
  {
    \IfBooleanTF {#1}
      { \__phy_diagmat_type:nnn { Vsmall } {#2} {#3} }
      { \__phy_diagmat_type:nnn { V      } {#2} {#3} }
  }
\RequirePackage{hyperref}
\hypersetup{colorlinks, citecolor = teal}
\let\oldHyPsd@CatcodeWarning\HyPsd@CatcodeWarning
\renewcommand \HyPsd@CatcodeWarning [1]
  {\ifnum\pdfstrcmp{#1}{math shift}=0 \else \oldHyPsd@CatcodeWarning{#1} \fi}
\pdfstringdefDisableCommands{
  \def\intop{int} \def\ilimits@{lim}
  \def\infty{infty} \let\HyPsd@CatcodeWarning\@gobble
}
\NewDocumentCommand \mathemph { O{} m } {\ifmmode
  \colorbox{Crimson!15}{\vphantom{$\displaystyle #1$}$\displaystyle #2$}\else
  \colorbox{Crimson!15}{\vphantom{#1}#2}\fi}
\color_set:nnn { eqcolor } { HTML } { 2F4F4F }
% \def \dollardollar@begin { \def \eqcolor {\color{eqcolor}} \eqcolor $$ }
% \def \dollardollar@end   { $$ \color_select:n {black} }
\DeclareRobustCommand \[
  {
    \scan_stop:
    \if_mode_math:
      \@badmath
    \else:
      \if_mode_vertical:
        \nointerlineskip
```

```
        \makebox[.6\linewidth]{ }
      \fi:
    \dollardollar@begin^^A \color_select:n { eqcolor }
    \fi:
  }
\DeclareRobustCommand \]
  {
    \scan_stop:
    \if_mode_math:
      \if_mode_inner:
        \@badmath
      \else:
        \dollardollar@end
      \fi:
    \else:
      \@badmath
    \fi:
    \ignorespaces
  }
\file_input_stop:
```

⟨/typeset⟩

A.3 The `whats-layout-module.code.tex` file

⟨∗layout⟩

```
\whatsnote_provide_module:n { layout }
% Graphics
\RequirePackage{anyfontsize, lmodern, microtype, manfnt, ragged2e, soul}
\RequirePackage[mono = false, osf]{libertine}
\RequirePackage[normalem]{ulem}
\RequirePackage[svgnames]{xcolor}
\RequirePackage[left  = 1.25in, vmargin = 1in, headheight = 15pt,
                right = .75in,  headsep = 15pt]{geometry}
\RequirePackage{graphicx, pgfplots}
\pgfplotsset{compat = newest}
\graphicspath{{./media/logos/} {./media/}}
\RequirePackage[compat = 1.1.0]{tikz-feynhand}
\setlength \feynhandblobsize {10mm}
% Table and list
\RequirePackage{booktabs, array, enumext}
\setenumext[enumext, 1]{label = (\alph*)}
\setenumext[enumext, 2]{label = \roman*.}
\RequirePackage[inline]{enumitem}
% Header & Footer
\RequirePackage{fancyhdr}
\fancyhead[OR]{\sffamily \rightmark}
\fancyhead[OL]{\sffamily \thepage}
\fancyhead[EL]{\sffamily \leftmark}
\fancyhead[ER]{\sffamily \thepage}
\fancyfoot[L,C,R]{}
\renewcommand* \headrulewidth {1pt}
\renewcommand* \footrulewidth {.5pt}
\hook_gput_code:nnn { cmd / headrule / before } {.}
```

```
  { \color_select:n { black!25 } }
\dim_new:N \l__whats_footrule_tmp_dim
\renewcommand \footrule
  {
    \if@fancyplain \let \footrulewidth \plainfootrulewidth \fi
    \color_select:n { black!25 }
    \hrule \@width \headwidth \@height \footrulewidth
  }
\pagestyle{fancy}
% Paragraphs
\linespread{1.2}
\RequirePackage{titlesec, subcaption}
\titleformat \chapter [hang] {\huge \bfseries \sffamily}
  {\biolinumLF \scshape \@chapapp\ \thechapter} {1em} {}
\titlespacing* \chapter {\z@} {\z@} {30pt}
\titlespacing \paragraph {\z@} {1.5ex minus .1 ex} {1pc}
\RequirePackage{paracol}
\columnratio{.64}
\RequirePackage{framed}
\setlength \FrameSep {\z@}
\renewcommand* \chaptermark[1] {
  \markboth {\normalfont \biolinumLF \scshape
    \ifnum \c@secnumdepth >\m@ne
      \if@mainmatter \@chapapp \ \thechapter .~\ \fi
    \fi #1}{}}
\renewcommand* \sectionmark[1] {
  \markright {\normalfont \sffamily
    \ifnum \c@secnumdepth >\z@ \thesection . \
    \fi #1}}
\setlength \parindent {\z@}
\renewcommand \@pnumwidth {2.5em}
\renewcommand \appendix {
  \cleardoublepage
  \setcounter{chapter}{0}
  \setcounter{section}{0}
  \gdef\@chapapp{\appendixname}
  \gdef\thechapter{\@Alph\c@chapter}
  \addtocontents {toc} { \protect \makeatletter }
  \addtocontents {toc} {
    \token_to_str:N \renewcommand* \token_to_str:N \l@section
      { \token_to_str:N \@dottedtocline {1} {1.5em} {5em} }
  }
  \addtocontents {toc} { \protect \makeatother }
  \renewcommand*\familydefault {\sfdefault}
  \pagenumbering{roman}
}
\file_input_stop:
```

⟨/layout⟩

A.4 The `whats-theorem-module.code.tex` file

⟨*theorem⟩

```
\whatsnote_provide_module:n { theorem }
```

```
\RequirePackage{keytheorems}
\newcounter {week}
\newcommand \newweek { \refstepcounter{week} \clearpage }
\newkeytheorem{theorem}[parent = section, style = definition]
\newkeytheorem{example}[parent = section, style = definition]
\newkeytheorem{definition}[parent = section, style = definition]
\newkeytheorem{problem}[parent = week, style = definition]
\newkeytheorem{solution}[numbered = false, style = definition]
\newkeytheorem{remark}[numbered = false, style = remark]
```

```
\file_input_stop:
```

⟨/theorem⟩

A.5 The `whats-cover-module.code.tex` file

⟨*cover⟩

```
\whatsnote_provide_module:n { cover }
```

```
\RequirePackage{tikz, zref-totpages}
\ExplSyntaxOff
\usetikzlibrary{fadings, patterns, arrows.meta}
\tikzset{ > = Stealth, every picture/.append style = {
          line join = round, line cap = round, thick } }
\ExplSyntaxOn
\DeclareDocumentCommand \coverset { m } { \keys_set:nn { __whats / coverset } {#1} }
\clist_new:N \l__whats_cover_llogos_clist
\keys_define:nn { __whats / coverset }
  {
    title         .tl_gset:N    = \@title,
    author        .tl_gset:N    = \@author,
    afill         .tl_gset:N    = \@afill,
    date          .tl_gset:N    = \@date,
      date        .initial:n    = \today,
    extinfo       .tl_set:N     = \l__whats_cover_extinfo_tl,
    head          .tl_set:N     = \l__whats_cover_head_tl,
    clogo         .tl_set:N     = \l__whats_cover_clogo_tl,
    clogo-pattern .tl_set:N     = \l__whats_cover_clogo_pattern_tl,
    llogos        .clist_set:N  = \l__whats_cover_llogos_clist,
  }
\DeclareRobustCommand *\sidehead [1] { \tl_gset:Nn \@sidehead {#1} }
\DeclareRobustCommand *\sidefoot [1] { \tl_gset:Nn \@sidefoot {#1} }
\sidehead{\@title}
\sidefoot{\thepage\,/\,\ztotpages}
\hook_gset_rule:nnnn { shipout / background } { __whats } { before } { pgfrcs }
\DeclareDocumentCommand \maketitle { O { gray } }
  {
    \__whats_@maketitle:n {#1}
    \hook_gput_code:nnn { shipout / background } { __whats }
      { \if@mainmatter \__whats_sidebar_hook:n {#1} \fi }
  }
\DeclareCommandCopy \save@cleardoublepage \cleardoublepage
\cs_new_protected_nopar:Npn \__whats_@maketitle:n #1
  {
    \pagecolor{#1!10}
    \let \cleardoublepage \clearpage
```

```
\begin{titlepage}
  \begin{tikzpicture} [ remember ~ picture, overlay ]
    \tl_if_empty:NF \l__whats_cover_head_tl
      {
        \node [ yshift = .325\paperheight, opacity = .5,
                rotate ~ around = { pi \c_colon_str
                ([yshift = .325\paperheight]current ~ page.center)} ]
          at (current ~ page.center)
          { \includegraphics [width = \paperwidth]
            { \l__whats_cover_head_tl } };
      }
    \clist_if_empty:NF \l__whats_cover_llogos_clist
      {
        \int_step_inline:nn { \clist_count:N \l__whats_cover_llogos_clist }
          {
            \node
              [ opacity = .25, yshift = {
                -.6\paperheight / 2 /
                  \clist_count:N \l__whats_cover_llogos_clist +
                ##1 * .6\paperheight /
                  \clist_count:N \l__whats_cover_llogos_clist }
              ] at ([xshift = .1\paperwidth]current ~ page.south ~ west)
              {
                \includegraphics
                  [
                    height  = .6\paperheight/6,
                    width   = .16\paperwidth, keepaspectratio
                  ] { \clist_item:Nn \l__whats_cover_llogos_clist { ##1 } }
              };
          }
      }
    \fill [ white, opacity = .5 ] (current ~ page.south ~ east) rectangle +
      (-.8\paperwidth, .6\paperheight);
    \node [ gray, above ~ left, inner ~ sep = 1em ] at
      (current ~ page.south ~ east) { \l__whats_cover_extinfo_tl };
    \fill [ white, opacity = .5 ] (current ~ page.south ~ east) rectangle +
      (-.7\paperwidth, .7\paperheight);
    \node
      [ shift = {(-.35*\paperwidth,.65*\paperheight)},
        darkgray, font = \Huge \bfseries \sffamily
      ] at (current ~ page.south ~ east) { \@title };
    \node
      [ shift = {(-.75*\paperwidth,.3*\paperheight)},
        rotate = 90, gray, opacity = .6, font = \huge \sffamily
      ] at (current ~ page.south ~ east) { \@author\ | \ \@afill };
    \tl_if_empty:NF { \l__whats_cover_clogo_tl }
      {
        \node (cover ~ logo)
          [ shift = {(.65*\paperwidth,.3*\paperheight)}]
          at (current ~ page.south ~ west)
          {
            \includegraphics[ height = .4\paperheight ]
              { \l__whats_cover_clogo_tl }
          };
```

```
          }
      \end{tikzpicture}
      \clearpage \thispagestyle{empty}
      \centering
      \vspace* \fill \sffamily
        \Large This ~ page ~ was ~ intentionally ~ left ~ blank.
      \vspace* \fill
    \end{titlepage}
    \pagecolor{Beige!30}
  }
\cs_new_protected:Npn \__whats_sidebar_hook:n #1
  {
    \int_if_odd:nTF { \arabic { page } }
      {
        \tikz [remember ~ picture, overlay] {
          \fill [ #1, opacity = .125 ]
                (current ~ page.south ~ west) rectangle
                ([xshift = +.5in]current ~ page.north ~ west);
          \node [ opacity = .25, inner ~ xsep = .25in,
                  above, inner ~ ysep = {1in - \footskip + 1ex},
                  font = \sffamily \large,
                ] at ([xshift = +.25in]current ~ page.south ~ west)
                { \rotatebox {-90} {\@sidehead} };
          \node [ opacity = .25, inner ~ xsep = .25in,
                  above, inner ~ ysep = \headsep, yshift = -1in,
                  font = \sffamily \large,
                ] at ([xshift = +.25in]current ~ page.north ~ west)
                { \rotatebox {-90} {\@sidefoot} };
          }
      }
      {
        \tikz [remember ~ picture, overlay] {
          \fill [ #1, opacity = .125 ]
                (current ~ page.south ~ east) rectangle
                ([xshift = -.5in]current ~ page.north ~ east);
          \node [ opacity = .25, inner ~ xsep = .25in,
                  above, inner ~ ysep = {1in - \footskip + 1ex},
                  font = \sffamily \large,
                ] at ([xshift = -.25in]current ~ page.south ~ east)
                { \rotatebox {+90} {\@sidehead} };
          \node [ opacity = .25, inner ~ xsep = .25in,
                  above, inner ~ ysep = \headsep, yshift = -1in,
                  font = \sffamily \large,
                ] at ([xshift = -.25in]current ~ page.north ~ east)
                { \rotatebox {+90} {\@sidefoot} };
          }
      }
  }
\file_input_stop:
⟨/cover⟩
```

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