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The Willow Tree Book Class 1.03

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Preface

The Willow Tree Book class is a simplified derivative of the `memoir` book class. I use it for my lecture notes. The document you are reading is in the Willow Tree Book class.

Contents

Chapter 1

Use

Here is a typical book using the Willow Tree Book class:

```
\documentclass{willowtreebook}
\Title{Odyssey}
\Author{Homer}
\BibliographyFile{odyssey}
        % The name of the .bib file, without file extension.
\begin{document}
\chapter{Preface}
This is the preface to my book.
\afterpreface
\chapter{We meet Odysseus}
Tell me, O muse, of that ingenious hero
    % The rest of the text goes here.
Thus spoke Minerva, and Ulysses obeyed her gladly. Then Minerva assumed
the form and voice of Mentor, and presently made a covenant of peace
between the two contending parties.
\par\bigskip\noindent
THE END
        % End the document without loading the bibliography
        % or the index, or the list of notation.
\end{document}
```

Compile with `latex` or `pdflatex`.

Chapter 2

Definitions, Problems and Theorems

Definitions

We can define a term like *hamster*, or say that the term hamster appears again later.

```
\chapter{Definitions, Problems and Theorems}
\section{Definitions}
We can define a term like \emph{hamster}\define{hamster},
or say that the term hamster\SubIndex{hamster} appears again later.
```

Compile, for a book called `filename.tex`, with

```
        makeindex filename
```

We add notation like when we use a variable called ω, we put it in the list of notation.

```
We add notation like when we use a variable called \(\omega\),
we put it in the list of notation.%
\Notation{omega}{\omega}{A variable called $\omega$}
```

If you use notation, compile with

```
        makeindex -s notation.gst -o not.gls not.glo
```

Problems

2.1 What is the point of your life?

In problem 2.1, we can clearly see ...

```
                % We add problems by:
\begin{problem}{label.for.the.first.problem}
What is the point of your life?
\end{problem}
                % and answers by:
\begin{answer}{label.for.the.first.problem}
Your life is pointless.
\end{answer}
In problem~\ref{problem:label.for.the.first.problem}, we can clearly see ...
```

Chapter 3

Citations

Our bibliography file looks like

```
@book {Homer:Iliad,
    AUTHOR = {Homer},
     TITLE = {The {I}liad},
   EDITION = {Third},
      NOTE = {An epic poem in dactylic hexameter, translated from the Greek by A. Guy},
 PUBLISHER = {McHaw-Grill Book Co., New Cork},
      YEAR = {1978},
     PAGES = {xi+331},
      ISBN = {0-07-000657-1},
}
```

We can cite works from the bibliography, like Homer [1], p. 12.

```
We can cite works from the bibliography, like Homer~\cite{Homer:Iliad}, p. 12.
```

Compile with `bibtex`.

Theorems

You have the usual theorem environments, like `amsthm`.

Theorem 3.1 (Pythagoras)**.** *In any triangle with sides of lengths a, b, c, $a^2 + b^2 = c^2$ just when the angle opposite the side of length c is a right angle.*

```
\begin{theorem}[Pythagoras]
In any triangle with sides of lengths \(a,b,c\),
\(a^2+b^2=c^2\) just when the angle opposite the
side of length \(c\) is a right angle.
\end{theorem}
```

Examples

I often want to present an example, and make clear where it starts and stops.

The integral

$$\int e^{x^2} x \, dx$$

is evaluated by substituting $u = x^2$, so

$$\int e^{x^2} x \, dx = \int e^u \frac{du}{2}.$$

```
\begin{example}
The integral
\[
\int e^{x^2}x\,dx
\]
is evaluated by substituting \(u=x^2\), so
\[
\int e^{x^2}x\,dx=\int e^u \frac{du}{2}.
\]
\end{example}
```

Preambles

We can put some LaTeX code before the hints:

```
\RenewDocumentCommand\hintsPreamble{}{
\par\noindent{}
\textit{When you are describing, \\
A shape, or sound, or tint; \\
Don't state the matter plainly, \\
But put it in a hint; \\
And learn to look at all things, \\
With a sort of mental squint.}
\par\noindent{}---\ {Lewis Carroll}}
```

or before the bibliography:

```
\RenewDocumentCommand\bibliographyPreamble{}{
\par\noindent
\textit{If those books are in agreement with the Quran,
we have no need of them;
and if these are opposed to the Quran,
destroy them.}
\par\noindent{}---\ {Omar}}
```

Hints

When you are describing,
A shape, or sound, or tint;
Don't state the matter plainly,
But put it in a hint;
And learn to look at all things,
With a sort of mental squint.
— Lewis Carroll

2.1. Your life is pointless.

Bibliography

If those books are in agreement with the Quran, we have no need of them; and if these are opposed to the Quran, destroy them.
— Omar

[1] Homer, *The Iliad*, third ed., McHaw-Grill Book Co., New Cork, 1978, An epic poem in dactylic hexameter, translated from the Greek by A. Guy.

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