The Willow Tree Book Class 1.03

September 28, 2021
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.
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Chapter 1

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

\documentclass{willowtreebook}
\Title{Odyssey}
\Author{Homer}
\BibliographyFile{odyssey}
\begin{document}
\chapter{Preface}
This is the preface to my book.
\afterpreface
\chapter{We meet Odysseus}
Tell me, O muse, of that ingenious hero
\afterchapter
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
\afterchapter
% End the document without loading the bibliography
% or the index, or the list of notation.
\end{document}

Compile with latex or pdflatex.
Definitions

We can define a term like \textit{hamster}, or say that the term hamster appears again later.

Compile, for a book called \texttt{filename.tex}, with

\begin{verbatim}
makeindex filename
\end{verbatim}

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

\begin{verbatim}
\Notation{omega}{\omega}{A variable called $\omega$}
\end{verbatim}

If you use notation, compile with

\begin{verbatim}
makeindex -s notation.gst -o not.gls not.glo
\end{verbatim}

Problems

\subsection*{2.1 What is the point of your life?}

In problem 2.1, we can clearly see ...

\begin{verbatim}
\begin{problem}{label.for.the.first.problem}
What is the point of your life?
\end{problem}
\begin{answer}{label.for.the.first.problem}
Your life is pointless.
\end{answer}
\end{verbatim}

In problem \ref{problem:label.for.the.first.problem}, we can clearly see ...
Chapter 3

Citations

Our bibliography file looks like

```latex
@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 \cite{Homer:Iliad}, p. 12.

Compile with \texttt{bibtex}.

Theorems

You have the usual theorem environments, like \texttt{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.

\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, \par\noindent{}
A shape, or sound, or tint; \par\noindent{}
Don’t state the matter plainly, \par\noindent{}
But put it in a hint; \par\noindent{}
And learn to look at all things, \par\noindent{}
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, \par\noindent\textit{we have no need of them; \par\noindent\textit{and if these are opposed to the Quran, \par\noindent\textit{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.
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

List of notation

ω  A variable called $\omega$, 3