The Willow Tree Book Class 1.01

April 24, 2020
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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Here is a typical book using the Willow Tree Book class:

```latex
\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 \dots
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 \texttt{latex} or \texttt{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 \texttt{\textbackslash emph{hamster}}\texttt{\textbackslash define{hamster}},
or say that the term \texttt{hamster}\texttt{\textsubscript{hamster}} appears again later.
```

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

```
makeindex filename
```

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

```
We add notation like when we use a variable called \(\langle\omega\rangle\),
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\texttt{\ref{problem:label.for.the.first.problem}}, we can clearly see ...
```
Our bibliography file looks like

```latex
@book {Homer:Iliad,
   AUTHOR = {Homer},
   TITLE = {The \textit{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.

The integral

\[
\int e^{x^2} x \, dx
\]
is evaluated by substituting $u = x^2$, so

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

2.1. Your life is pointless.
Bibliography

List of notation

ω  A variable called $\omega$, 3