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(Click on the tabs above for more information on each topic. Many tabs lead to pages that have tabbed subtopics.)

The PUP-Book Style

Welcome to the use of the new Princeton University Press LATEX class file. We've made the process of preparing your book for submission to the Press as simple as possible, and hope you'll enjoy the process. If you need help after you read this documentation, you may send email to your editor.

Files in this package, and what they do

Basic Class File

`PUP-Book.cls`   Use: `\documentclass{PUP-Book}`

Documentation

`PUP-Docs.pdf`   Documentation for the PUP-Book style, this file

Fonts
`fonts.zip`   This design uses TimesNewRoman or STIX fonts along with HelveticaNeue fonts.
                                        To access these fonts you must copy the contents of the fonts.zip file into a new directory named `\fonts`, one level higher than the directory where your main .tex file is found.

Sample Files

`PUP-Sample.tex/.pdf`   Sample files to see the LaTeX commands in use, and to compare with the resulting typeset document.

`PUP-Sample-7x10.tex/.pdf`   Sample files to see the LaTeX commands in use, and to compare with the resulting typeset document.

`PUP-Sample.bbl`

`PUP-Sample-7x10.bbl`   Sample bibliography file made with BibTeX, for use with PUP-Sample.tex.

`PUP-Sample.ind`

`PUP-Sample-7x10.ind`   Sample index file to produce index in PUP-Sample

`PUPLogo.pdf`   For use in PUP-Sample.

Bibliography Sample Database File

`bibsamp.bib`   Sample bibliography database file for use with BibTeX.

Files for Index Samples

`authors.ind, topics.ind`   Files to produce indices in PUP-MultiIndex.tex/.pdf

`PUP-MultiIndex.tex/.pdf`   Sample file showing how to make multiple indices, ie, one for authors and one for topics, or even a third or fourth index.

`Readme.txt`   Brief Notes, and List of files in this package and what they are used for.

Font Files, Using xelatex

As mentioned on the previous page, remember to copy the contents of fonts.zip into a directory called **\fonts**, located one level above the directory where your main .tex file is found.

Now you must run xelatex, instead of pdflatex on your file.

The reason to use xelatex is that is allows the fontspec package to be used, which allows the use of .otf font files.

Using xelatex is no more difficult than using pdflatex, and it is included in the standard LaTeX distribution, so we don't anticipate any problems.

Setting the Font Path

Authors may set a directory for fonts, **\fonts**, one level up from the location of their .tex files.

To direct XeLaTeX to find the fonts, there are several settings in the PUP-Book.cls file for the font path, ie, **Path=./fonts/**

For example,

```
\setmathfont{STIX2Math}[
Extension={.otf},
Path=./fonts/,
Scale=1]
```

and

```
\defaultfontfeatures{Ligatures=TeX,
Path=./fonts/, }
```

These don't need to be changed unless
 >> the author wants to use a different repository for the fonts<<
or if the author is using a unix or mac operating system.

In any of these cases the author may set a new Path.

Search in the PUP-Book.cls file for **'Path='** and supply the desired new path by changing the Path declarations. For example, to change from ./fonts to ./newfonts you would change the font path in every instance in your copy of PUP-Book.cls:

```
\setmathfont{STIX2Math}[
Extension={.otf},
Path=./newfonts/,
Scale=1]
```

and

```
\defaultfontfeatures{Ligatures=TeX,
Path=./newfonts/, }
```

Notice that you must follow the directory name with **/**

Alternatively, you may drop the font files found in fonts.zip into the same directory where your .tex and .cls files are located. In this case you don't need to set a font path.

Using Overleaf

Overleaf is appreciated by many users, and we expect that you may want to use it too.
Overleaf has useful tutorials on their site. We might suggest these tutorials if the author needs help
with basic LaTeX commands.

Three issues when using Overleaf with this package:

1) You need to set the Overleaf menu to use Xelatex
   You will see a menu on the top, left side of your screen. Look for 'Compiler' and set it for XeLaTeX.

2) You must make a **\fonts** directory one level up in Overleaf, in which is found all the font files in the fonts.zip file.

3) This error message will appear when you are using Overleaf. You can safely ignore it.

```
<argument> ...op@@ }\expandafter \@firstofone \fi

l.41

I'm ignoring this; it doesn't match any \if.
```

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How to enter Document class options

These options are entered in square brackets before the name of the class file.

For example

\documentclass[STIXfonts,BookEndNotes]{PUP-Book}

calls for the use of the STIX fonts, and footnotes appearing at the end of the book in the form of Endnotes. You can use any number of options, separating each with a comma.

Choice of Options

In the case of documentclass options, you will see the following list at the top of the PUP-Sample.tex file.

```
%% Possible Documentclass Options:

% 6x9 or 7x10 for page size;
% 6x9 is default; this size is actually 6.125 x 9.25in

% Pup-draft / Double space version for easy copyediting

% TimesFonts / Use Times New Roman rather than STIX
%    (STIX is the default font set. It is an upgrade from Times New Roman)

% STIXFonts / Use the STIX fonts.

% nocropmarks / turn off cropmarks for complete document. Cropmarks are On by default.

% BookEndNotes / turn footnotes into endnotes to be printed at end of book

% ChapEndNotes / turn footnotes into endnotes to be printed at end of chapter.
%% (default is to print footnotes at the bottom of the page)

% MultIndices / Allows user to name more than one index.
%                Example seen in indexsample.tex/.pdf
```

Hyperlinking

Information on the hyperref commands are found here: https://en.wikibooks.org/wiki/LaTeX/Hyperlinks
See here http://tug.ctan.org/tex-archive/macros/latex/contrib/hyperref/doc/manual.pdf
for package options and user commands.

If you'd like to make changes changes to the hyperref package options you can use the **\hypersetup{}** command before **\begin{document}** and type in the new options. Probably this will not be necessary!

Caution when loading \usepackages! | Using **\include** for Book Chapters

Adding .sty or macro files

Unless you Really Need an additional speciality set of macros, it would be a good idea not to add more macros to the PUP-Book style.

Packages already loaded in PUP-Book.cls

Our class file, PUP-Book.cls, contains the following:

```
\usepackage{amsmath}
\usepackage{fontspec}
\usepackage{unicode-math}
\usepackage{bookmark}
\usepackage{hyperref}
\usepackage{algpseudocode}
\usepackage[plain]{algorithm}
\usepackage{graphicx}
\usepackage{multicol}
\usepackage{longtable}
\usepackage{url}
\usepackage{endnotes}
\usepackage{multind}
\usepackage{makeidx}
\usepackage{framed}
\usepackage{AMSthm}
```

Please do not re-load these packages.

You are welcome to add other packages as well, but considering the number of packages already in use, you will be risking conflicts, so add more packages with caution.

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Typesetting Princeton University Press Books in LATEX

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| Fonts | Setting Options |

| Caution when loading \usepackages! | **Using \include for Book Chapters** |

Organizing your entire book

Many authors set up their book using **\include{}** for individual chapters. You, too, may want to use the **\include{}** method for making up your complete book.

Your root .tex file might look like this:

```
\documentclass[<options>]{PUP-Book}
\begin{document}
 \include{front} %% containing all the front matter
 \include{chap1}
 \include{chap2}
 ...
 \endinput % end book here until ready to do endmatter, then delete \endinput
 \endnotes
 \bibliography{bibsamp}
 \printindex
\end{document}
```

Each file you use with **\include{}** should **NOT** have the following commands:

```
\documentclass{PUP-Book}
\begin{document}
...
\end{document}
```

because these commands are found in the root .tex file.

Using \includeonly{chap1,chap3,etc.}

You can use **\includeonly{}** **before** **\begin{document}** to include only the chapters you are presently working on.

For instance:

```
\includeonly{chap3,chap4}
\begin{document}
 ...
```

Will bring in only the two chapters listed.

A nice feature is that if you have previously run LaTeX on the complete book, you will get the correct page numbers, cross-referencing and citations in the separate chapters, even though, as in this case, you are starting with chapter 3.

The tabs above show the order in which these commands should be entered. Certainly not all of these environments are necessary, but when you use those environments that are useful to your book, you should enter them in this order.

Half Title

Half title is the traditional typesetting term for the title of the book, in a simplified form, used at the very beginning of the book. In this style, the half title will only be the title of the book.

(Later the title page will be used, which is a bit more elaborate.)

Enter the command below for title. This will not produce any results until the **\makehalftitle** command is used:

\title{<book title>}

\makehalftitle

For example, as you will see in the sample pages:

\title{Metaphysical Implications\\ of Quantum Mechanical Dynamics}

\makehalftitle

Notice that you can use **** to break lines in the title.

Typesetting Princeton University Press Books in LaTeX

| Welcome | Getting Started | **Front Matter** | Headings | Chap Open/End | New Environments | Figs | Tables | End Matter |

| Half Title Page | **Series** | TitlePage | Copyright Page | Dedication Page | Book Epigraph Page |

| Brief Contents, Contents, LOF, LOT, etc. | Foreword, Preface, Acknow. | Abbreviations, Definitions, Glossary | Contributors |

Series Page

The next entry will be for the Series page.

There is an optional square bracket argument for the Series Page Title.

```
\begin{seriespage}[SERIES PAGE TITLE]

\seriesauthor{Series Author Name}
<Optionally, elaborate on Series Contents>

\title{Series book title 1}
\author{Author of series book 1}

\title{Series book title 2}
\author{Author of series book 2}

\title{Series book title3}
\author{Author of series book 3}
\end{seriespage}
```

Welcome   Getting Started   **Front Matter**   Headings   Chap Open/End   New Environments   Figs   Tables   End Matter

Half Title Page   Series   **TitlePage**   Copyright Page   Dedication Page   Book Epigraph Page

Brief Contents, Contents, LOF, LOT, etc.   Foreword, Preface, Acknow.   Abbreviations, Definitions, Glossary   Contributors

Title Page

The title page in a PUP book will start with title and possible subtitle.

```
\title{}
\subtitle{} %% Optional
```

Authors names should be stacked vertically

Each author name should be entered individually, and will automatically stack.

Affiliation or the term 'and' should not be used for PUP books.

```
\title{Metaphysical Implications\\ of Quantum Mechanical Dynamics}

\subtitle{Applications of Magic in Engineering, Physics, and Neuroscience}

\author{Author}

\author{Second Author}
```

Now this command will make the titlepage print:

```
\maketitlepage
```

Typesetting Princeton University Press Books in LAT_EX

Welcome   Getting Started   **Front Matter**   Headings   Chap Open/End   New Environments   Figs   Tables   End Matter

Half Title Page   Series   TitlePage   **Copyright Page**   Dedication Page   Book Epigraph Page

Brief Contents, Contents, LOF, LOT, etc.   Foreword, Preface, Acknow.   Abbreviations, Definitions, Glossary   Contributors

Copyright Page

To make it easier to produce the copyright page, PUP-Book.cls supplies the following commands. Only if an entry is made between the curly brackets, and **\copyrightpage** is used, will there be an entry for that kind of information in the copyright page.

In the example given below, for instance, there will be an entry in the copyright page for the copyright year.

It would be a nuisance to copy each of these commands, but luckily you can cut and paste them from PUP-Sample.tex and use them in your own manuscript, filling in the entries that you want to appear in the actual copyright page.

Nothing will be printed until the **\copyrightpage** command is used.

```
%%%%%%%%%%%%%%%%%%%%%%%%%%
%% Info for Copyright page, from PUP-Sample.tex:

%% Enter copyright information here:
\copyrightyear{2023}
\locNumber{}
\isbnNumber{}
\isbnPbkNumber{}
\Editorial{}
\ProductionEditorial{}
\TextDesign{}
\JacketCoverDesign{}
\JacketCoverCredit{}
\Production{}
\Publicity{}
\bookcomposed{}
%% just a sample!
\typesettingPrintingInformation{Typeset in \LaTeX\ Using the Princeton
University Press Macros}

%% Print Copyright Page:
\copyrightpage
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

Welcome   Getting Started   **Front Matter**   Headings   Chap Open/End   New Environments   Figs   Tables   End Matter

Half Title Page   Series   TitlePage   Copyright Page   **Dedication Page**   Book Epigraph Page

Brief Contents, Contents, LOF, LOT, etc.   Foreword, Preface, Acknow.   Abbreviations, Definitions, Glossary   Contributors

Dedication Page

Easily done, supply your dedication as seen in example below.

```
\begin{dedication}
For our companions in life's journey...
\end{dedication}
```

Typesetting Princeton University Press Books in LATEX

Welcome | Getting Started | **Front Matter** | Headings | Chap Open/End | New Environments | Figs | Tables | End Matter

Half Title Page | Series | TitlePage | Copyright Page | Dedication Page | **Book Epigraph Page**

Brief Contents, Contents, LOF, LOT, etc. | Foreword, Preface, Acknow. | Abbreviations, Definitions, Glossary | Contributors

Book Epigraph Page

There are two epigraph environments: one for the beginning of your book, and one for a chapter heading.

The book epigraph uses these commands:

```
\begin{bookepigraph}
Text, may end each line with \\ for poetry
\epigraphsource{Author of epigraph, (Name of book where epigraph text
                is found)
\end{bookepigraph}
```

For example,

```
\begin{bookepigraph}
Epigraph text rendait une \'{e}trange musique\\
Comme l'eau courante et le vent,\\
Ou le grain qu'un vanneur d'un mouvement rhytmique\\
Agite et tourne son van.
\epigraphsource{Charles Baudelaire, \textit{Une charogne} (Les Fleurs du Mai)}
\end{bookepigraph}
```

Typesetting Princeton University Press Books in LATEX

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| Half Title Page | Series | TitlePage | Copyright Page | Dedication Page | Book Epigraph Page |

| Brief Contents, Contents, LOF, LOT, etc. | Foreword, Preface, Acknow. | Abbreviations, Definitions, Glossary | Contributors |

Contents Lists

At this point in your book you will want to enter the Brief Contents, Table of Contents, and a number of other optional lists of contents:

```
\briefcontents
\tableofcontents
\listoffigures
\listoftables
\listofalgorithms
```

Specifying Particular Contents in Lists

Usually the contents lists are automatically built from section headers or captions. In some cases, however, the headers might have **** line breaks that we don't want to propagate to the contents lists.

In these cases we can use the square bracket optional argument to specify how the header or caption will appear in the list.

Specify TOC Version of Part, Chapter or Section Heads

The version of the part, chapter, or section heads that appear in the TOC should be the same as that found in the body of the book, with the exception that we don't want line breaks to be sent to the TOC.

```
\chapter[Long Chapter Title Without Line Break}
         {Long Chapter Title\breakline with Line Break}
\section[Version of section head without line break]
         {Version of section\\ head with line break}
```

Specify Short Version of Caption

If we have a figure, table, or algorithm caption that is longer than we'd like in the **\listoffigures**, **\listoftables** or **\listofalgorithms**, we can use the square bracket argument with **\caption** like this:

```
\caption[Short version of caption]
          {Long version of caption that is too long to gracefully appear in the
                   \listoffigures, \listoftables, or \listofalgorithms.}
```

Welcome　Getting Started　**Front Matter**　Headings　Chap Open/End　New Environments　Figs　Tables　End Matter

Half Title Page　Series　TitlePage　Copyright Page　Dedication Page　Book Epigraph Page

Brief Contents, Contents, LOF, LOT, etc.　**Foreword, Preface, Acknow.**　Abbreviations, Definitions, Glossary　Contributors

Making the Foreword and Preface

Make Foreword:

```
\begin{foreword}
Forward text continuing here...
\end{foreword}
```

Make Preface:

The ending of Preface uses the `\prefaceauthor{Author\\ Date}` as you see
in the following:

```
\begin{preface}
Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse
molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero

More text...
\prefaceauthor{The Author\\ Date Details}
\end{preface}
```

Acknowledgment

Entering the acknowledgment is straightforward:

```
\begin{acknowledgment}
Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse
\end{acknowledgment}
```

Typesetting Princeton University Press Books in LATEX

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| Half Title Page | Series | TitlePage | Copyright Page | Dedication Page | Book Epigraph Page |

| Brief Contents, Contents, LOF, LOT, etc. | Foreword, Preface, Acknow. | **Abbreviations, Definitions, Glossary** | Contributors |

More Lists

The following environments are optional, but easy to use if any are helpful to the understanding of terms in your book.

Abbreviations

Abbreviations are in the form of a long table, a table that will continue over pages with the heading line continuing as well if you have a sufficient number of terms that it would need to continue to a second or more pages.

Since it is in a table form, the abbreviated term is followed with **&**, and the description of the term is followed with a ****.

```
\begin{abbreviations}
WTO &World Trade Organization\\
GD &Group Discussion\\
WHO &World Health Organization
\end{abbreviations}
```

Definitions

Definitions are also in a long table form, like the abbreviations. Please see PUP-Sample.tex/.pdf to see a larger example of a definition list.

```
\begin{definitions}
Poisson distribution&%
In probability theory and statistics, the Poisson distribution is a
discrete probability distribution\\
...
\end{definitions}
```

Glossary

Enter Glossary terms in the same as you did for Abbreviations and Definitions: with **&** after the glossary term, and **** at the end of the description of the term.

```
\begin{glossary}
NormGibbs&Draw a sample from a posterior distribution
of data with an unknown mean and variance using Gibbs sampling.\\
...
\end{glossary}
```

Part, Chapter, and Section Heads

PART

An optional Part Epigraph may be entered before the **\part{}** command:

```
\partepi{Epigraph text rendait une \'{e}trange musique Comme l'eau courante et
le vent, Ou le grain qu'un vanneur d'un mouvement rhytmique
Agite et tourne son van.}
{---Epigraph source}
\part{<part title>}
```

The **\part** command allows an optional argument, which lets you send a different version of the part title to the Table of Contents.

This option will only be needed if there is a line break in the part title that we don't want in the TOC. Otherwise, the part title and the part title in the TOC should match.

```
\part[<optional version of title for TOC>]
{<part title>}
```

CHAPTER

Normally the chapter title will be used for the right running head, but ocassionally the chapter title will be too wide to fit in the running head. In this case, after **\chapter{Chapter Title}** you can enter **\markright{<term>}** which will send the term to the right running head. For example,

```
%% [] = version to go to Brief Contents, or Table of Contents
%% {} = Chapter Title
%% \markright{} = version for running head

\chapter[Environmental Policy Analysis with STREAM:\protect\\
Equilibrium Model for Material Flows in the Economy]
{Environmental Policy Analysis with STREAM: A Partial
Equilibrium Model for Material Flows in the Economy}
\markright{Environmental Policy Analysis with STREAM}
```

SECTION HEADS

Section heads in this style use the standard LATEX syntax:

```
\section{} \subsection{} \subsubsection{} \paragraph{}
```

If you use **\protect** in your section or subsection head, you will want to to send a different title to the Table of Contents. Use the optional square bracket in this case:

```
\section[TOC Section Title]{Long Section\protect\\ Title}
\subsection[TOC Subsection Title]{Long Subsection\protect\\ Title}
```

Chapter Opening | Chapter Ending

Chapter Opening

What can be used for Chapter Opening?

```
\chapter[Version for TOC]{Version for Chapter Title}
    %% Version for TOC needed if \\ is in chapter title

\markright{Version for running head} %% If Chapter Title is too wide for running head,
                                     %% or if \\ is in chapter title.
```

Optional one or more chapter epigraphs may follow the chapter head.

```
\chapepigraph{<quote>} {<author>}
\chapepigraph{<quote>} {<author>}
```

Chapter Opening Example

```
\chapter[Chapter Title without line breaks]{Chapter Title\\ Broken Into Two Lines}
 \markright{Chapter Title for Running Head}
%
 \chapepigraph{What star falls unseen?}{William Faulkner}
 \chapepigraph{All seats provide equal viewing of the universe.}{Museum
    Guide, Hayden Planetarium}
```

What Cannot be Used for Chapter opening?

1. Chapter subtitle is not allowed.

2. **\thanks{}** or **\footnote{}** are not allowed in Chapter title.

Chapter Opening   **Chapter Ending**

Chapter Ending

The two elements that may be used at the end of chapters are Exercises/Answers, and Chapter End Notes.

Exercises/Answers

A full description of making Exercises/Answers in this style is found here: ExerAns

Exercises may be entered in each chapter, or at the end of your book; or several exercise sets might be entered in each chapter. Selected Answers may be entered at the end of the chapter, or the end of the book or both.

Chapter End Notes

To have Chapter End Notes, you must set the appropriate option in the documentclass call:

> `\documentclass[ChapEndNotes]{PUP-Book}`
> (turn footnotes into endnotes to be printed at end of the chapter)

When you have set the option to ChapEndNotes for your documentclass, and have used `\footnote{}`s in your chapter, you can use the `\ChapEndNotes` to print the endnotes at the end of the chapter.

For example:

```
\footnote{Stephen Hawking said that the detection of gravity waves
marked a key moment in scientific history.}
...
\ChapEndNotes
```

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| Exercises/Answers | Quote/Quotation | Boxed Text | Shaded Text | Code Examples |

| Algorithms | Theorems | Numbering Theorems | Dialogue | Blank Page | Notation | URL |

Exercises/Answers

This method of entering exercises and answers is easy to use and flexible.

You can enter exercises at the end of every chapter or you can enter several sets of exercises within one chapter, with the answer set at the end of the chapter. You can also enter answers at the end of the book, whether or not you have entered answers at the end of every chapter.

Entering Exercises and Subexercises

More than one exercise set may be used in body of chapter; the Answers section can list answers to any of the exercises in the chapter, using the label given for the exercise for the number given for the answer.

```
\begin{exercises}              % Exercise set is entered between
                               % \begin{exercises}...\end{exercises}
\exer This is the first exercise.
\label{firstexercise}          % \label term will be used to number answers.

\begin{subexercises}           %% Subexercises go within this group:
                               %% \begin{subexercises}...\end{subexercises}

    \subexer
     Here is a sub-exercise.
    \label{samplesubexercise}

    \subexer
     Here is another sub-exercise.
     \label{secondsubexercise}
\end{subexercises}
\end{exercises}
```

Answers

Number the answers and subanswers by using **\answer{\ref{<number of exercise to be answered>}}** or**\subanswer{\ref{<number of subexercise to be answered>}}**

```
\begin{answers}        %% to end with \end{answers} at the end of the answer section.
\answer{\ref{firstexercise}}
Here is the answer for exercise listed.

\subanswer{\ref{samplesubexercise}}
Here is the answer for subexercise listed.
\end{answers}
```

See PUP-Sample.tex/.pdf for worked out examples of exercises and answers.

Welcome | Getting Started | Front Matter | Headings | Chap Open/End | **New Environments** | Figs | Tables | End Matter

Exercises/Answers | **Quote/Quotation** | Boxed Text | Shaded Text | Code Examples

Algorithms | Theorems | Numbering Theorems | Dialogue | Blank Page | Notation | URL

Quote

Quote is an environment for a quote that is one paragraph long. It should end with author and, optionally, publishing information.

```
\begin{quote}
<text>

\source{---<author of extract> <optionally, additional publishing information>}
\end{quote}
```

For example,

```
\begin{quote}
 The distance $ds$ between two neighboring events, one with coordinates...

 \source{---Kostas D. Kokkotas, Article for the\\ Encyclopedia of Physical Science
 and Technology,\\ 3rd Edition, Volume 7, Academic Press, (2002)\\
 \url{http://www.tat.physik.uni-tuebingen.de/GW_Physics.pdf}}
\end{quote}
```

Which produces:

> The distance ds between two neighboring events, one with coordinates...
> —Kostas D. Kokkotas, Article for the
> Encyclopedia of Physical Science and Technology,
> 3rd Edition, Volume 7, Academic Press, (2002)
> http://www.tat.physik.uni-tuebingen.de/GW_Physics.pdf

Quotation

Quotation is the environment you would use for a quotation that is more than one paragraph long. It is otherwise identical to **\begin{quote}...\end{quote}**.

```
\begin{quotation}
<paragraph, another paragraph>

\source{--- Author, optional publishing information}
\end{quotation}
```

Typesetting Princeton University Press Books in LATEX

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Exercises/Answers   Quote/Quotation   **Boxed Text**   Shaded Text   Code Examples

Algorithms   Theorems   Numbering Theorems   Dialogue   Blank Page   Notation   URL

Boxed text

Boxed Text is used to call attention to some part of your text. It will continue over as many pages as you need; may contain section heads, extracts, equations, theorems, programming code, algorithms, and other commands within the box.

Normally the boxed text command uses a title
`\begin{boxedtext}{<title>}`
If you don't want title you can supply an empty argument:
`\begin{boxedtext}{}...\end{boxedtext}`

```
\begin{boxedtext}{<title>}
 <text>
 optional attribution:
(author, where published, \url{})
\end{boxedtext}
```

For example,
```
\begin{boxedtext}{Frank Wilczek on Einstein and Gravitation}
Einstein's general relativity, as a theory of gravitation, is so tight
conceptually that it allows only two free parameters: Newtons
constant and the cosmological term. It has passed every test that
physicists and astronomers have devised. Yet there are reasons to
remain dissatisfied.\\
...\\
 (Frank Wilczek, Physics Today, April 2016,
 \url{scitation.aip.org/content/aip/magazine/physicstoday
 /article/69/4/10.1063/PT.3.3137})
 \end{boxedtext}
```

> ### *Box 2.1 / Frank Wilczek on Einstein and Gravitation*
>
> Einstein's general relativity, as a theory of gravitation, is so tight conceptually that it allows only two free parameters: Newtons constant and the cosmological term. It has passed every test that physicists and astronomers have devised. Yet there are reasons to remain dissatisfied.
> ...
> (Frank Wilczek, Physics Today, April 2016, `scitation.aip.org/content/aip/magazine/physicstoday/article/69/4/10.1063/PT.3.3137`)

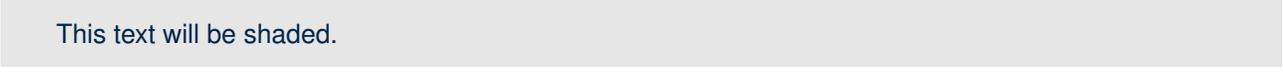
(See longer example of boxed text in PUP-Sample.tex/.pdf.)

Shaded Text

To call attention to some part of your text, we can add shading behind a selected part. The part using shaded text can extend over pages, and include equation, theorems, and so on, similar to `\boxedtext{}...\end{boxedtext}`.

```
\begin{shaded}
This text will be shaded.
\end{shaded}
```

Which produces:

> This text will be shaded.

Typesetting Code Examples

Programming Code examples can be made with either `\begin{verbatim}...\end{verbatim}` or `\begin{algorithm}\caption{<text>}\begin{algorithmic}...\end{algorithmic}\end{algorithm}`

Samples of algorithms will be on the next page; first let's look at an example of using shaded verbatim.

When using PUP-Book.cls the `\begin{verbatim}`...`\end{verbatim}` environment will have shading behind it as the default. Here it is used to show a sample of Python code:

```
n = int(input('Type a number, and its factorial will be printed: '))
if n < 0:
    raise ValueError('You must enter a non-negative integer')
factorial = 1
for i in range(2, n + 1):
    factorial *= i
print(factorial)
```

Turn off shading

`\noshading`
for one instance of verbatim where we don't want shading; Use it immediately before the one instance of verbatim where you do not want shading.

`\NeverVerbatimShading`
Use it before `\begin{document}` for turning off verbatim shading for whole document.

Below you can see the result of using `\noshading` before `\begin{verbatim}`:

```
\noshading

n = int(input('Type a number, and its factorial will be printed: '))
if n < 0:
    raise ValueError('You must enter a non-negative integer')
factorial = 1
for i in range(2, n + 1):
    factorial *= i
print(factorial)
```

The next verbatim environment in your book will again have shading, so if you want to turn off shading for the whole document, remember to use `\NeverVerbatimShading` before `\begin{document}`.

Welcome   Getting Started   Front Matter   Headings   Chap Open/End   **New Environments**   Figs   Tables   End Matter

Exercises/Answers   Quote/Quotation   Boxed Text   Shaded Text   Code Examples

Algorithms   Theorems   Numbering Theorems   Dialogue   Blank Page   Notation   URL

Algorithm, and Algorithmic Environments

PUP-Book.cls includes two algorithm packages: algorithm.sty and algpseudocode.sty which calls algorithmicx.sty. You are encouraged to see the documentation for these packages for information on algorithm commands.

See https://en.wikibooks.org/wiki/LaTeX/Algorithms for examples, and http://tug.ctan.org/macros/latex/contrib/algorithms/algorithms.pdf for explanation of algorithm commands.

For explanation of algorithmicx commands, see http://tug.ctan.org/macros/latex/contrib/algorithmicx/algorithmicx.pdf.

The command **\begin{algorithm}** takes placement option **[p][b][t][h]**, or some combination, like **\begin{figure}**. It is a 'wrapper' that will let your algorithm float (like figure), and will allow you to give it a caption.

```
\begin{algorithm}
\caption{Algorithm caption.}
\begin{algorithmic}...\end{algorithmic}
\end{algorithm}
```

\begin{algorithmic} is where the algorithm is actually formatted. A small sample:

```
\begin{algorithmic}
\If {$i\geq maxval$}
    \State $i\gets 0$
\Else
    \If {$i+k\leq maxval$}
        \State $i\gets i+k$
    \EndIf
\EndIf
\end{algorithmic}
```

which produces:

> **if** $i \geq maxval$ **then**
> $i \leftarrow 0$
> **else**
>   **if** $i + k \leq maxval$ **then**
> $i \leftarrow i + k$
>   **end if**
> **end if**

After you have entered an algorithm caption you can use **\listofalgorithms** near the beginning of your book to print a list of all the algorithm captions in your book.

Like other captions, you can use the optional square bracket argument to give a shorter caption listing:

```
\caption[Short version for List of Algorithms]
{Long version for printing on page.}
```

Typesetting Princeton University Press Books in LATEX

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Theorems, and similar environments

The PUP-Book style uses the AMS Theorem style. This style allows you to customize your theorem environment. For information on customizing your theorems with the AMSthm commands, see: http://www.ams.org/arc/tex/amscls/amsthdoc.pdf

Amsthm allows us to set a number of general theorem styles, using the `\theoremstyle{<style>}` command.
`plain` : italic text, extra space above and below
`definition` : upright text, extra space above and below

The default theorem style in PUP-Book.cls is `\theoremstyle{plain}`.

`\newtheorem{}{}[]` **uses the most recently declared theorem style.**

That means that we can set one `\theoremstyle{}` for all theorem type environments, OR
We can change the theoremstyle immediately before the definition of a new theorem and that theoremstyle will be used for the all the newtheorems that follow, until another `\theoremstyle{}` command is used. This allows us to have a variety of theorem styles in one book, depending on the kind of theorem environment being defined.

Theorems defined in PUP-Book.cls

The `\newtheorem` command uses the first argument for the term to be typed in; the second argument in square brackets will determine the counter to be used, in this case the counter set when
`\newtheorem{theorem}{Theorem}[chapter]` was defined, the third argument determines the theorem name that you will see on your page.

The new theorems below are found in PUP-Book.cls. Note that they all use the the `[theorem]` counter that has been previously defined, so if you want to change all the theorem counters you need only redefine the counter in the `\newtheorem{}{}[]` command. That change will propagate through all the other theorem type definitions.

```
{\theoremstyle{plain} % italic text
\newtheorem{theorem}{Theorem}[chapter]
\newtheorem{lemma}[theorem]{Lemma}%
\newtheorem{proposition}[theorem]{Proposition}%
\newtheorem{corollary}[theorem]{Corollary}%
\newtheorem{conjecture}[theorem]{Conjecture}
}

{\theoremstyle{definition} % roman text
\newtheorem{assumption}[theorem]{Assumption}
\newtheorem{definition}[theorem]{Definition}%
\newtheorem{example}[theorem]{Example}%
\newtheorem{remark}[theorem]{Remark}
\newtheorem{exercise}[theorem]{Exercise}
}
```

Proof is a similar environment supplied in this style:
`\begin{proof}` Proof here.`\end{proof}`

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Using AMSThm When Making New Theorems

Numbering

- To include the chapter number or section number in the theorem number, you can add the third argument in square brackets when defining
  `\newtheorem{<name to type in>}{<Name that will print>}[<counter>]`
  For instance:
  `\newtheorem{theorem}{Theorem}[chapter]`, will produce

  Theorem 1.1. Chapter number included in theorem counter.

  `\newtheorem{zthm}{Theorem}[section]`, producing

  Theorem 1.1.1. Section number included in theorem counter.

- All of our theorem environments use the theorem counter defined with
  `\newtheorem{theorem}{Theorem}[chapter]`
  For instance:

  ```
  {\theoremstyle{plain}
  \newtheorem{theorem}{Theorem}[chapter]
  \newtheorem{proposition}[theorem]{Proposition}
  \newtheorem{assumption}[theorem]{Assumption}}
  ```

  Proposition 1.2. *This is proposition.*

  Assumption 1.3. *This is assumption.*

For more information, see the PUP-Sample.tex/.pdf where you will find further explanation, and an example of making a new theorem environment.

Dialogues

```
\begin{dialogue}
\speaker{<name>} <Text> ...
\end{dialogue}
```

For example
```
From the NY Times article of February 11, 2016,
{\it Gravitational Waves Detected, Confirming Einstein's Theory}.

\begin{dialogue}
\speaker{Francis C\'ordova}
Its been decades, through a lot of different technological
innovations,
[and the foundations advisory board had] really scratched their heads on this one.

\speaker{Janna Levin}I was astounded!

\speaker{Robert Garisto} [the editor of Physical Review Letters]
I got goose bumps while reading the LIGO paper.
\end{dialogue}
```

which produces...

From the NY Times article of February 11, 2016, *Gravitational Waves Detected, Confirming Einstein's Theory*.

Francis Córdova: Its been decades, through a lot of different technological innovations, [and the foundations advisory board had] really scratched their heads on this one.

Janna Levin: I was astounded!

Robert Garisto: [the editor of Physical Review Letters] I got goose bumps while reading the LIGO paper.

Alternatively, you can use a description environment:
```
\begin{description}
\item[Name] <text>...
\end{description}
```
ie,

Janna Levin I was astounded!

Robert Garisto [the editor of Physical Review Letters] I got goose bumps while reading the LIGO paper.

Blank Page

There may be places where you'd like a page that has no running heads. In this case you can use the command

```
\blankpage
```

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Notation

Notation is an environment made to show symbols or terms and then define them.

The general design is

```
\begin{notation}
<term>&<definition>\\
<term>&<definition>\\
<term>&<definition>\\
...
\end{notation}
```

For example

```
\begin{notation}
 $g_{\mu\nu}(x^\lambda)=g_{\nu\mu}(x^\lambda)$&symmetric tensor\\
 $g_{\mu\nu}\equiv\eta_{\mu\nu}=\mathrm{diag}(-1,1,1,1)$&Minkowski spacetime\\
\end{notation}
```

Which produces

Notation

$g_{\mu\nu}(x^\lambda) = g_{\nu\mu}(x^\lambda)$ symmetric tensor

$g_{\mu\nu} \equiv \eta_{\mu\nu} = \mathrm{diag}(-1,1,1,1)$ Minkowski spacetime

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URL

The **\url{}** command will allow URLs to break over lines at a hyphen which is quite convenient.

If you don't want to add a hyphen to your url, (a hyphen in a url could be confusing), you can enter
\url{part of url}\break\url{end of url}
which will break the url without adding a hyphen.

URL package information

The package defines a form of command that allows linebreaks at certain characters or combinations of characters, accepts reconfiguration, and can usually be used in the argument to another command. It is intended for formatting email addresses, hypertext links, directories/paths, etc., which normally have no spaces.

\url{ }   The argument must not contain unbalanced braces. If used in the argument to another command, the **\url** argument cannot contain any **%** **#** or **^^**, or end with **** .

\url| | where **|** is any character not used in the argument and not **{** or a space. The same restrictions apply as above except that the argument may contain unbalanced braces.

For more information, and to see ways in which this package can be modified, see
http://texdoc.net/texmf-dist/doc/latex/url/url.pdf

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Standard Figure | Landscape Figure | Graphics | PUP Figure Specifications

Figures

The standard method of inserting graphics is used in the PUP-Book style: `\includegraphics{<filename>}`. You don't need the file extension (.pdf, .eps, .jpg, etc.) unless you have more than one graphic file with the same name and a different extension.

You may set the width of your illustration using the `[width=<dimen>]` as you see below. Remember to put in the `=` between `width` and the dimension or you will get a mysterious error message.

```
\includegraphics[width=\textwidth]{Fig1.pdf}
```

Alternatively, you may set the height of your graphic, but remember not to use **both** width and height. This may cause a problem with the illustration's aspect ratio and the image may become distorted. When you call for one dimension, the other will automatically adjust to the correct size.

```
\includegraphics[width=\textwidth]{Fig1.pdf}
```

Below is an example of the standard figure, centered with `\centerline{}`:

```
\begin{figure}
\centerline{\includegraphics[width=\textwidth]{Fig1.pdf}}
\caption{<caption text here>}
\label{fig:task_data}
\end{figure}
```

Note that the `\label{}` comes within or after the caption. This is necessary because the `\caption{}` advances the caption number, so if your label is above the caption you will set the wrong figure number.

Welcome Getting Started Front Matter Headings Chap Open/End New Environments **Figs** Tables End Matter

Standard Figure **Landscape Figure** Graphics PUP Figure Specifications

How to make a landscape figure

Position the box vertically by using **\hskip-<dimen>** as you see below (**\hskip-3in**).

```
\begin{figure}[p]
\rotatebox{90}{\hskip-3in\vbox
{\includegraphics[width=\textheight]{<your graphic file>}
\caption{<text>}}}
\end{figure}
```

Graphics Files

Insert graphics file with the command

`\includegraphics[width=<dimen>]{<illustration filename>}`

Remember, you should supply Either height or width, and the other dimension will accomodate, and your aspect ratio will be correct. (The aspect ratio describes the proportional relationship between the width of an image and its height.)

Tip

You can call for the width of the graphic in terms of the width of the page. `\textwidth` is the dimension for the width of normal text on the page.

`\includegraphics[width=.8\textwidth]{<illustration>}`

Use the right filename extension

You must use the correct extension depending on which program you use to turn your .tex file to .pdf.

- You will be typesetting with XeLaTeX, and so may supply .pdf, .jpg, .eps, or .png files for illustrations.

Notes on Graphics Choices

JPG: widely used on Internet, digital cameras, etc., jpg's are the best choice if you want to insert photos.

PNG: a very common format (even if not as much as JPG); it's a lossless format and it's the best choice for diagrams (if you were not able to generate a vector version) and screenshots.

PDF: is widely used for documents but can be used to store images as well. It supports both vector and bit-mapped images.

EPS: May be used with XeLaTeX.

PUP Figure Specifications

1. All figures are to be positioned either at top or bottom of text page, regardless of text references. If 2 or more figures appear on the same page along with text, position the figures all together at the top or bottom of the page, with text either below or above the figures.

2. If the figure or figures occupy more than 3/4 of a page (including Running head and folio and caption), do not put any text on that page.

3. If figure must be positioned broadside (landscape), align figure flush left on text page and at top of text page.

Tables

Click on tabs above for each kind of table, and table tips.

Tabular in Text

All tables in this style should be flush left. A skip is built into the tabular definition, but remember not to leave any blank lines after text above the tabular, and before text below tabular.

```
text...
\begin{tabular}...\end{tabular}
More text.
```

For instance,

```
...ranging from 10--7 Hz up to 1011 Hz.
\begin{tabular}{l|l}
\hline
\multicolumn2c{\bf Acceleration Equations}\\
\hline
\it With initial velocity&\it Starting from rest\\
\hline
$v_f=v_i+ a \Delta\, t$&$v_f=a\Delta\, t$\\
$\Delta\, d=v_i \Delta\, t + 1/2 a \Delta\, t^2$&
$\Delta\, d= 1/2 a \Delta\, t^2$\\[6pt]
\hline
\end{tabular}
In theory, the loss of energy through gravitational radiation could...
```

...ranging from 10–7 Hz up to 1011 Hz.

Acceleration Equations	
With initial velocity	*Starting from rest*
$v_f = v_i + a\Delta t$	$v_f = a\Delta t$
$\Delta d = v_i\Delta t + 1/2a\Delta t^2$	$\Delta d = 1/2a\Delta t^2$

In theory, the loss of energy through gravitational radiation could...

Standard Table

Like figures, tables should appear near their first mention in text. They follow this form:

```
\begin{table}
\caption{<Caption text here>}
\label{<label keyword>}
\begin{tabular}{<preamble>}
table&line\\
\end{tabular}
\end{table}
```

Table example

Things to notice:

- Caption on top; `\label{}` *in or after* caption

- Horizontal line at top and bottom of table and underneath the column heads.

- No vertical lines unless Absolutely necessary to meaning of table

- Table note marker made using `$^{<letter>}$`; Table note made at bottom of table, using `\multicolumn{}{}{}`

- The `@{}`s added to the preamble and the multicolumn prevent extra horizontal space from being added to the left and right side of the table.

```
\begin{tabular}{@{}lc@{}}
\hline
\bf Run  &\bf Time (min)  \\
\hline
  $l1$  & 260$^a$  \\
  ...\\
\hline
\multicolumn{2}{@{}l}{$^{a}$Table note text here.}
\end{tabular}
```

Run	Time (min)
$l1$	260^a
...	

^{a}Table note text here.

Lining up decimal numbers on the decimal point

For each decimal number, use two table columns; the first pushing the text to the right, the second to the left. to get rid of the space between the two columns, supply `@{}`, as you see in the example below.

```
\begin{tabular}{r@{}lcc}
\hline
&&\multicolumn2c{$Y$= Decrease in Surface Tension}\\
\multicolumn2c{$x$ = Weight \% sulfur}
&\multicolumn2c{(dynes/cm), two Replicates}\\
\hline
0.&034&301&316\\
0.&093&430&422\\
011.&30&593&586\\
\hline
\end{tabular}
```

	Y = Decrease in Surface Tension	
x = Weight % sulfur	(dynes/cm), two Replicates	
0.034	301	316
0.093	430	422
011.30	593	586

Landscape Table

Tables should not be rotated unless they are wider than the text width. In that case, you can follow these instructions for a landscape table.

Here are the commands needed to rotate a table:

```
\begin{table}[p]
\rotatebox{90}{\vbox{\hsize=\textheight\centering
(table here)
} %% end \vbox
} %% end \rotatebox argument
\end{table}
```

Note:
The table should be on its own page, accomplished with
`\begin{table}[p]`

```
\begin{table}[p]
\rotatebox{90}{\vbox{\hsize=\textheight\centering
\caption{Here is a caption for a table that is found in landscape
mode.}
\begin{tabular}{ccrrcccccccc}
\hline
\bf (column headers)
\hline
0 & 2 & 1 & 1370.99 & 57.35\rlap{$^a$}    &   6.651120 &  17.131149 &
21.344$\pm$0.006\rlap{$^b$}  & 2 4.385$\pm$0.016 & 23.528$\pm$0.013
& 0.0 & 9 & -\\
...
\hline
\multicolumn{13}{l}{%
Table 2 is published in its entirety in the electronic
edition of the {\it Astrophysical Journal}.}\\[3pt]
\multicolumn{13}{l}{%
$^a$ Sample footnote for table 2.}\\[3pt]
\multicolumn{13}{l}{%
$^b$ Another sample footnote for table 2.}
\end{tabular}
}}
\end{table}
```

You can see a full example of a rotated table in PUP-Sample.tex/.pdf.

Longtable: Table Continuing over Pages

Tables that continue over pages use the longtable.sty file, included in PUP-Book.cls.

Documentation for longtable is here: http://ctan.mirror.rafal.ca/macros/latex/required/tools/longtable.pdf

\usepackage{longtable} is included in the PUP-Book.cls, giving you access to
the commands for making a table that continues over pages.
Here is the syntax for longtable:

1. **\begin{longtable}{ccc}**

2. text...**\endfirsthead**
   This will make the column headers that are used on the first page of the table.

3. text...**\endhead**
   will make the text be used for column heads for the second and following pages.

4. text...**\endfoot** will be used for the bottom of every page of the table except for the last page of the table.

5. text...**\endlastfoot** will be used for the bottom of the last page of the table.

6. Now you can type in your table contents and the continuing column headers and footers will be formatted in the way you determined with the earlier commands. End your table with **\end{longtable}**.

A Schematic for Sample Longtable

@{} gets rid of the column space

```
\begin{longtable}{@{}ccc@{}}
\caption{<caption text>} \\
\hline (column heads) \hline
\endfirsthead

\multicolumn3{@{}l}{\longtablecontinued}\\[7pt]
\multicolumn3c{Next line of column heads}\\[2pt]
\hline \bf (column heads for 2nd and following pages) \hline
\endhead

\\[12pt]
\endfoot

\hline
\\[24pt]
\endlastfoot

(table contents)
\end{longtable}
```

You can see a full example of a table continuing over pages in PUP-Sample.tex/.pdf.

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| Tabular in Text | Standard Table | Decimals | Landscape Table | Multipage Table | **Table Tips** | Table Specifications |

Table Tips

1. Table should appear as near as possible to its first reference in text.

2. Caption goes on top of table.

3. PUP table specifications ask you to use horizontal lines only at the top, underneath column headers, and at the bottom of table.

4. To make more vertical space between lines in tables you can use a `\vrule` with 0pt width, called a 'strut'.

   You can choose the height and depth dimensions which go up or down from the baseline. Always make `width = 0pt`, so that the ruled line won't print.

   For example, to make 12pt height from the baseline in the first line of the table:

   ```
   \begin{tabular}{cc}
   \vrule height 12pt depth 3pt width0pt line one& here\\
   \end{tabular}
   ```

5. The command `\rlap{}` can be helpful, since it allows the argument to move to the right, without tabular recognizing the width. The example to the left used `zyx$^a$`; to the right used `zyx\rlap{$^a$}`.

xyz	xyz
zyx^a	zyx^a
yxz	yxz

   You can see that the columns lined up correctly in the right hand example.

Table Notes

Table notes should be placed in last line of the table, using
`\multicolumn{<num columns>}{<alignment within column>}{<text>}` ie,
`\multicolumn{2}{l}{$^a$ This is a table note.}` Notice that the 'a' is raised by going into math mode and using the superscript symbol '^'. Here is an example:

```
\begin{tabular}{lc}
\hline
 Run$^a$  & Time (min)  \\
\hline
$11$  & 260    \\
...
\hline
\multicolumn{2}{l}{$^{a}$Table note text here.}
\end{tabular}
```

PUP Table Specifications

1. Place 1/2 pt horizontal rules at top and bottom of table, (**\hline**) as well as under the column heads. Rules extend to full text measure.

2. All column heads should base align.

3. Numbers within the same column containing decimal points should align on the decimal point, unless otherwise specified.

4. Do not put text on pages where tables run longer than 3/4 of the page (including Running head and folio and table note).

5. All tables to be positioned at either the top or bottom of the text page, regardless of text references. If 2 or more tables appear on the same page, along with text, the tables should be placed together at the top or bottom of the page, with text placed either above or below tables.

6. For a table that needs to be continued over pages, use the **\longtable** commands.

   Repeat column heads. Do not repeat main table head. Omit bottom rule until the end of the table has been reached.

Ending Book

Here are the elements that you may use for the end of the book:

```
Appendix
End Book Exercises
End Notes
Bibliography
Contributors List
Index
Multiple Indices
```

You can see a full example of ending the book in PUP-Sample.tex/.pdf. and PUP-IndexSample.tex/.pdf

End of Book Appendix

Appendices are optional.

The command **\appendix** resets counters and redefines section heads but doesn't print anything. The **\appendix** command will make **\chapter** and **\section** use letters rather than numbers. Also it changes equation numbers and figure, table and algorithm numbers to add the current appendix letter to the number.

You can get lettered appendices by typing
\appendix
\chapter{Title}.

A small example

```
\appendix
\chapter{Chapter Title}
\subtitle{Optional Appendix Subtitle}
```

produces:

Appendix A
Appendix title
Optional Appendix Subtitle

End Book Exercises

End Book Exercises may be entered in the same way as Exercises/Answers in the chapter.

This method of entering exercises and answers is easy to use and flexible.

You can enter exercises at the end of every chapter or you can enter several sets of exercises within one chapter, with the answer set at the end of the chapter. You can also enter answers at the end of the book, whether or not you have entered answers at the end of every chapter.

Entering Exercises and Subexercises

More than one exercise set may be used in body of chapter; the Answers section can list answers to any of the exercises in the chapter, using the label given for the exercise for the number given for the answer.

A full description of making Exercises/Answers in this style is found here: ExerAns

End Notes

At the beginning of your book, you may choose either BookEndNotes or ChapEndNotes
as a documentclass option:

```
\documentclass[BookEndNotes]{PUP-Book}
(turn footnotes into endnotes to be printed at end of book)

or

\documentclass[ChapEndNotes]{PUP-Book}
(turn footnotes into endnotes to be printed at end of the chapter)
```

Book End Notes

When you have set the option to BookEndNotes for your documentclass, and have used
\footnote{}s in your book, you can use the **\BookEndNotes** to print the endnotes
at the end of the book.

For example:

```
\footnote{Stephen Hawking said that the detection of gravity waves
marked a key moment in scientific history.}
...
\BookEndNotes
```

Book Endnotes will provide the chapter number and chapter title, and number each of
the endnotes starting with 1 for each new chapter. If you have a chapter that doesn't
have any footnotes in it, the chapter title will not appear.

Contributors Page

The Contributors page should be near the end of the book, immediately before the index, should an Index be used.

We make the Contributors Page Using these commands:

```
\begin{Contriblist}
\contrib{Contributor name} Description of Contributor

\contrib{Contributor name} Description of Contributor

\contrib{Contributor name} Description of Contributor
(repeat as needed...)

\end{Contriblist}
```

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BibTeX Bibliography   Cites   Choosing Bibliography Style   Bibliography Samples

Using BibTeX

You should use BibTeX to produce your bibliography.
Follow these steps

1. Start with a bibliographic database. This is done by entering commands in the correct form into a .bib file.

   Excellent guide to making your .bib file:
   https://en.wikipedia.org/wiki/BibTeX

2. Type in `\bibliographystyle{<your chosen style}`

   (For AOM books, we suggest using `\bibliographystyle{alpha}` without natbib)

3. Where you want your bibliography to appear type in `\bibliography{<name of your .bib file>}`.

4. Enter `\cite{}` commands in your .tex file. These citations should use the keywords that are found in the .bib file you are using.

   (Natbib use `\citet{} \citep{}` but these commands will not work unless you are using natbib.)

5. Run XeLaTeX on your TeX file.

6. Run BiBTeX on your TeX file.

7. Run XeLaTeX on your TeX file two times. The first time you will produce the bibliography; the second time will produce the citations.

More information on using BibTeX

A good guide to BibTeX:
http://www.andy-roberts.net/writing/latex/bibliographies

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Natbib citation mark up

Citations in *PUP-Book Style* may be made using the Natbib commands.

To use Natbib citations, you must enter `\usepackage[<options>]{natbib}` and a bibliography style based on or compatible with the natbib package. The Authordate1 bibliography style, shown here, is the style preferred by PUP.

To achieve the kind of citations seen below, please follow these steps:

1. Enter `\usepackage[round,sort]{natbib}` followed by `\bibliographystyle{authordate1}`
2. Then enter `\bibliography{<your .bib file>}` where you want the bibliography to appear in your book; run xelatex, run bibtex, then run xelatex again
3. Now your citations that use the commands below will produce similar results.

   Note: The natbib options, 'square' or 'round,' refer to the kind of delimiters used in the citations.

Single citations

Type	Results
`\citet{jon90}`	Jones et al. (1990)
`\citet[chap. 2]{jon90}`	Jones et al. (1990, chap. 2)
`\citep{jon90}`	(Jones et al., 1990)
`\citep[chap. 2]{jon90}`	(Jones et al., 1990, chap. 2)
`\citep[see][]{jon90}`	(see Jones et al., 1990)
`\citep[see][chap. 2]{jon90}`	(see Jones et al., 1990, chap. 2)
`\citet*{jon90}`	Jones, Baker, and Williams (1990)
`\citep*{jon90}`	(Jones, Baker, and Williams, 1990)

Multiple citations

Multiple citations may be made by including more than one citation key in the `\citet` or `\citep` command argument.

Type	Results
`\citet{jon90,jam91}`	Jones et al. (1990); James et al. (1991)
`\citep{jon90,jam91}`	(Jones et al., 1990; James et al. 1991)
`\citep{jon90,jon91}`	(Jones et al., 1990, 1991)
`\citep{jon90a,jon90b}`	(Jones et al., 1990a,b)

See for http://merkel.zoneo.net/Latex/natbib.php for reference sheet on natbib commands.
General information on natbib found here:
https://ctan.math.washington.edu/tex-archive/macros/latex/contrib/natbib/natbib.pdf

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Choosing Your Bibliography Style

For PUP books that are not in the Annals of Math series, you have a
number of choices for a bibliography style approved by PUP.

Best choice, followed by two more styles that PUP accepts:

1. Variation on Chicago style: `\usepackage[round,sort]{natbib}` followed by
   `\bibliographystyle{authordate1}` before `\begin{document}`.

2. Numbered bibliography: `\usepackage[square,numbers]{natbib}` followed with
   `\bibliographystyle{plainnat}` before `\begin{document}`

3. An Alpha style: `\usepackage[round,authoryear]{natbib}` followed with
   `\bibliographystyle{plainnat}` before `\begin{document}`

After the bibliography style has been set, enter
`\bibliography{<your .bib file>}` where you want the
bibliography to appear; run xelatex on your .tex file, run bibtex on your
.tex file, then run xelatex again.

At this point your bibliography will be formed and your cites will be able
to use the natbib commands as seen here: natbibCites

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BibTeX Bibliography | Cites | Choosing Bibliography Style | **Bibliography Samples**

Authordate1 style of citations and bibliography:

```
\usepackage[round,sort]{natbib}
\bibliographystyle{authordate1}

\citet{einstein}, \citep[chap.~1]{einstein}
\citep{latexcompanion}
```

Einstein (1905), (Einstein, 1905, chap. 1) (Goossens *et al.* , 1993)

Einstein, Albert. 1905. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, **322**(10), 891–921.

Goossens, Michel, Mittelbach, Frank, & Samarin, Alexander. 1993. *The LATEX Companion*. Reading, Massachusetts: Addison-Wesley.

Knuth, Donald. 2000. *Knuth: Computers and Typesetting*.

Numbered style of citations and bibliography:

```
\usepackage[square,numbers]{natbib}
\bibliographystyle{plainnat}

\citet{einstein}, \citep[chap.~1]{einstein}
\citep{latexcompanion}
```

Einstein [1], [1, chap. 1] [2]

[1] Albert Einstein. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10):891–921, 1905. doi: http://dx.doi.org/10.1002/andp.19053221004.

[2] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LATEX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.

[3] Donald Knuth. Knuth: Computers and typesetting, 2000. URL http://www-cs-faculty.stanford.edu/~{}uno/abcde.html.

Alpha style of citations and bibliography:

```
\usepackage[round,authoryear]{natbib}%
\bibliographystyle{plainnat}

\citet{einstein}, \citep[chap.~1]{einstein}
\citep{latexcompanion}
```

Einstein (1905), (Einstein, 1905, chap. 1) (Goossens et al., 1993)

Albert Einstein. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10):891–921, 1905. doi: http://dx.doi.org/10.1002/andp.19053221004.

Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LATEX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.

Donald Knuth. Knuth: Computers and typesetting, 2000. URL http://www-cs-faculty.stanford.edu/~{}uno/abcde.html.

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Making Your Index

The standard LaTeX indexing method combines author names and topics in one index.

There is also the option to make multiple indices for one book. In this case you should enter the documentclass option `MultIndices` when you declare your documentclass: `\documentclass[MultIndices]{PUP-book}`

Unless this option is used, it is assumed that you want a single index, and the commands needed to start your index will be provided in PUP-Book.cls.

Then all we need to do is enter the index markup, and follow the steps listed below.

1. Mark the words to be indexed in the text, with `\index{<term>}` or
   `\index{<term>!<secondary term>}` or
   `\index{<term>!<secondary term>!<tertiary term>}`.
   Terms after the '**!**' will align beneath the major term in the index.

   For example, if you enter `\index{trees}`, followed at some later point in your book with a subentry,
   `\index{trees!pointy}` (the primary entry followed by an exclamation mark and the new term); and for
   a subsub entry, you follow a similar sequence: `\index{trees!pointy!green}`,
   in the finished index, you will see

   ```
   trees   24
     pointy 26
       green 30
   ```

2. Run XeLATEX on the file,

3. On the command line, or in the program you are using for editing your text, run `makeindex filename`.
   This will produce a <filename.ind> file.

4. Run LATEX on your file again; the index will appear where you have typed `\printindex`, at the end of your book

Editing your .ind file

When you are reasonably sure that your book is complete and your index will not change, you can consider editing the .ind file. At this point you can fix mistakes you may have made in entering the `\index{}` commands. An example of a common mistake is entering an index command with the term in upper case one time, and lower case another time. This will result in two index entries, so you will want to combine the entries.

Another change that you might like to make is to the position of math terms in the index. They will initially appear at the top of the index. You may want them to appear in the body of the index where the name of the equation is listed.

Fancier Index Entries

If for some reason, you'd like fancier index entries, or if you'd like more information on indexing in general, please visit: https://en.wikibooks.org/wiki/LaTeX/Indexing

Typesetting Princeton University Press Books in LATEX

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Making Authors/Topics Indices

Some authors will want to have two indices; one for author names, and one for topics.

To make multiple indices enter the documentclass option **MultIndices** :
\documentclass[MultIndices]{PUP-book}

Next you need to use the **\makeindex{}** command to name the indices you want to make.

The names below are common choices, although you can name your index anything you want. And you can make more than two indices.

> **\makeindex{topics}**
> **\makeindex{authors}**

Now, the **\index** command will take two arguments; one for the name of the index that the term should appear in; and a second for the index term itself.

\index{topics}{General Relativity} or
\index{authors}{Albert Einstein}, for example.

1. Mark the words to be indexed in the text, with **\index{<index name>}{<term>}** or
   \index{<index name>}{<term>!<secondary term>} or
   \index{<index name>}{<term>!<secondary term>!<tertiary term>}.
   Terms after the '**!**' will align beneath the major term in the index.

   For example, if you enter **\index{topics}{trees}**, followed at some later point in your book with a subentry, **\index{topics}{trees!pointy}** (the primary entry followed by an exclamation mark and the new term); and for a subsub entry, you follow a similar sequence:
   \index{topics}{trees!pointy!green},
   in the finished topics index, you will see

   > **trees   24**
   >   **pointy 26**
   >   **green 30**

2. Run LATEX on the file,

3. On the command line, run **makeindex topics**.
   and **makeindex authors**.
   This will produce a topics.ind and a authors.ind file.

4. Run LATEX on your file again; the index will appear where you have typed **\printindex{authors}**, and
   \printindex{topics}, at the end of your book.

As with the single index, when you are reasonably sure that your book is complete and your indices will not change, you can consider editing the .ind files.

See indexsamp.tex/.pdf for an example of multiple indices made with the PUP-book.cls.