

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- algorithm
- chap references 2
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- boxed and bold math
- problems
- index
- part/chapter
- example
- exercises
- chap appendices
- topic/author index



Using L^AT_EX for Typesetting Wiley Books

Wileysix and Wileysev

Sample Pages: Code with results on the following page

To see L^AT_EX code next to the results,
go to the task bar on top of your Acrobat Reader and set
View==>Page Display==>Two up continuous
You may want to also set the size to 'Fit Width', (`control-2`)

by Amy Hendrickson, T_EXnology Inc.
www.texnology.com / amyh@texnology.com

- set page display
- **begin book**
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Beginning of Book

Comment: Setting `\offprintinfo{ }{ }` is necessary.
See an example the bottom of this page.

```

%%%%%%%%%%%%%
% 7x10
%\documentclass{wileySev}

% 6x9
\documentclass{wileySix}

% For PostScript text
\usepackage{w-bookps}

% For including graphics files
\usepackage{graphicx}
\usepackage{color}
\definecolor{gray}{cmyk}{0,0,0,0.5}
%%%%%%%%%%%%%
%% Change options here if you want:
%%
%% How many levels of section head would you like numbered?
%% 0= no section numbers, 1= section, 2= subsection, 3= subsubsection
%%==>>
\setcounter{secnumdepth}{3}

%% How many levels of section head would you like to appear in the
%% Table of Contents?
%% 0= chapter titles, 1= section titles, 2= subsection titles,
%% 3= subsubsection titles.
%%==>>
\setcounter{tocdepth}{2}
%%%%%%%%%%%%%
%
% DRAFT
%
% Uncomment to get double spacing between lines, current date and time
% printed at bottom of page.
% \draft
% (If you want to keep tables from becoming double spaced also uncomment
% this):
% \renewcommand{\arraystretch}{0.6}
%%%%%%%%%%%%%

\offprintinfo{Survey Methodology, Second Edition}{Robert M. Groves}
%% Can use \ if title, and edition are too wide, ie,
%% \offprintinfo{Survey Methodology,\ Second Edition}{Robert M. Groves}

```

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Authors do not need to enter code needed for the title page, half title page, or copyright pages, since Wiley will supply these pages. However, if you would like to make title pages for your own use, here are the commands necessary.

```
\booktitle{Survey Methodology}
\subtitle{This is the Subtitle}

\authors{Robert M. Groves\\
\affil{Universitat de les Illes Balears}
Floyd J. Fowler, Jr.\\
\affil{University of New Mexico}
}

\halftitlepage

\titlepage

\begin{copyrightpage}{2007}
Survey Methodology / Robert M. Groves . . . [et al.].
\    p. cm.---(Wiley series in survey methodology)
\    ``Wiley-Interscience."
\    Includes bibliographical references and index.
\    ISBN 0-471-48348-6 (pbk.)
\    1. Surveys---Methodology. 2. Social
\    sciences---Research---Statistical methods. I. Groves, Robert M. II. %
Series.\\
HA31.2.S873 2007
001.4'33---dc22
\end{copyrightpage}
```

2004044064

SURVEY METHODOLOGY

SURVEY METHODOLOGY

This is the Subtitle

Robert M. Groves

Universitat de les Illes Balears

Floyd J. Fowler, Jr.

University of New Mexico



A JOHN WILEY & SONS, INC., PUBLICATION

Copyright ©2007 by John Wiley & Sons, Inc. All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600, or on the web at www.copyright.com. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008.

Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services please contact our Customer Care Department with the U.S. at 877-762-2974, outside the U.S. at 317-572-3993 or fax 317-572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print, however, may not be available in electronic format.

Library of Congress Cataloging-in-Publication Data:

Survey Methodology / Robert M. Groves . . . [et al].
p. cm.—(Wiley series in survey methodology)
“Wiley-Interscience.”
Includes bibliographical references and index.
ISBN 0-471-48348-6 (pbk.)
1. Surveys—Methodology. 2. Social sciences—Research—Statistical methods. I. Groves, Robert M. II. Series.

HA31.2.S873 2007
001.4'33—dc22 2004044064
Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

- set page display
- begin book
- title pages
- **dedication**
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\dedication{To my parents}
```

To my parents

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: List of Contributors for edited books.

```
\begin{contributors}
\name{Masayki Abe,} Fujitsu Laboratories Ltd., Fujitsu Limited, Atsugi,
Japan

\name{L. A. Akers,} Center for Solid State Electronics Research, Arizona
State University, Tempe, Arizona

\name{G. H. Bernstein,} Department of Electrical and
Computer Engineering, University of Notre Dame, Notre Dame, South Bend,
Indiana; formerly of
Center for Solid State Electronics Research, Arizona
State University, Tempe, Arizona
\end{contributors}
```

CONTRIBUTORS

MASAYKI ABE, Fujitsu Laboratories Ltd., Fujitsu Limited, Atsugi, Japan

L. A. AKERS, Center for Solid State Electronics Research, Arizona State University,
Tempe, Arizona

G. H. BERNSTEIN, Department of Electrical and Computer Engineering, University
of Notre Dame, Notre Dame, South Bend, Indiana; formerly of Center for Solid
State Electronics Research, Arizona State University, Tempe, Arizona

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: all are optional except for table of contents.

```
\contentsinbrief
\tableofcontents
\listoffigures
\listoftables
```

CONTENTS IN BRIEF

PART I SUBMICRON SEMICONDUCTOR MANUFACTURE

1 The Submicrometer Silicon MOSFET	3
2 First Edited Book Sample Chapter Title G. Alvarez and R. K. Watts	5
3 Second Edited Book Sample Chapter Title George Smeal, Ph.D., Sally Smith, M.D. and Stanley Kubrick	7
4 Sections and Convenient Macros	9
5 Chapter References	33
6 Chapter Appendices	39

CONTENTS

List of Figures	ix
List of Tables	xi
Foreword	xiii
Preface	xv
Acknowledgments	xvii
Acronyms	xix
Glossary	xxi
List of Symbols	xxiii
Introduction	xxv
<i>Catherine Clark, PhD.</i>	
References	xxv

PART I SUBMICRON SEMICONDUCTOR MANUFACTURE

1 The Submicrometer Silicon MOSFET	3
1.1 Sample Section	3
	vii

2	First Edited Book Sample Chapter Title	5
	G. Alvarez and R. K. Watts	
2.1	Here is a normal section	5
2.1.1	Here is a subsection	5
3	Second Edited Book Sample Chapter Title	7
	George Smeal, Ph.D., Sally Smith, M.D. and Stanley Kubrick	
3.1	Here is a normal section	7
3.1.1	This is the subsection	7
4	Sections and Convenient Macros	9
4.1	This Version of Section Head will be sent Contents	9
4.2	This show how to explicitly break lines in Table of Contents	9
4.3	How to get lower case in section head: pH	9
4.4	Boxed and Bold Math	11
4.4.1	Boxed Math	11
4.4.2	Bolding Math	11
4.5	Example	13
4.6	Sample figure and table	15
4.7	Side by Side Tables and Figures	17
4.8	Rotated Table	19
4.9	Algorithm	21
4.10	Listing	23
	Problems	25
	Exercises	27
	Problems	29
	Problem Solutions	31
5	Chapter References	33
5.1	Chapter References: Numbered references	33
	References	33
5.2	Chapter References: Named references	35
	References	35
5.3	Chapter References: BibTeX	37
	References	37
6	Chapter Appendices	39

Appendix: This is the Chapter Appendix Title	39
Chapter Appendix	39
A This is the Appendix Title	41
B Appendix	43
References	45
References	47
References	49
Index	51
Topic Index	53
Author Index	53

LIST OF FIGURES

4.1	Short figure caption.	15
4.2	Oscillograph for memory address access operations, showing 500 ps address access time and superimposed signals of address access in a 1 kbit memory plane.	15
4.3	This caption will go on the left side of the page. It is the initial caption of two side-by-side captions.	17
4.4	This caption will go on the right side of the page. It is the second of two side-by-side captions.	17
6-A.1	This is a chapter appendix figure caption.	39
A.1	This is an appendix figure caption.	41

LIST OF TABLES

4.1	Small Table	15
4.2	Effects of the two types of $\alpha\beta \sum_B^A$ scaling proposed by Dennard and co-workers ^{a,b}	15
4.3	Table Caption	17
4.4	Table Caption	17
4.5	Table Caption	17
4.6	Table Caption	17
4.7	Effects of the two types of $\alpha\beta \sum_B^A$ scaling proposed by Dennard and co-workers ^{a,b}	19
6-A.1	This is a chapter appendix table caption	39
A.1	Appendix table caption	41

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\begin{foreword}
This is the foreword to the book.
\end{foreword}
```

FOREWORD

This is the foreword to the book.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\begin{preface}
This is an example preface.
This is an example preface.
This is an example preface.
This is an example preface.
\section*{This is a preface section}
This is an example of a preface.
This is an example preface.
This is an example preface.
This is an example preface.
This is an example preface.
\prefaceauthor{R. K. Watts}
\where{Durham, North Carolina\\
September, 2007}
\end{preface}
```

PREFACE

This is an example preface. This is an example preface. This is an example preface.
This is an example preface.

This is a preface section

This is an example of a preface. This is an example preface. This is an example preface. This is an example preface. This is an example preface.

R. K. WATTS

Durham, North Carolina
September, 2007

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- **acknowledgments**
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acronyms
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- glossary
- sections
- algorithm
- chap references 2
- references 2
- list of contributors
- list of symbols
- Intro
- boxed and bold math
- problems
- BibTeX
- index
- contents, list of figures/tables
- part/chapter
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\acknowledgments
```

```
From Dr.~Jay Young, consultant from Silver Spring, Maryland, I received
the initial push to even consider writing this book. Jay was a constant
``peer reader`` and very welcome advisor durying this year-long process.
```

```
To all these wonderful people I owe a deep sense of gratitude especially now
that this project has been completed.
```

```
\authorinitials{G. T. S.}
```

ACKNOWLEDGMENTS

From Dr. Jay Young, consultant from Silver Spring, Maryland, I received the initial push to even consider writing this book. Jay was a constant “peer reader” and very welcome advisor during this year-long process.

To all these wonderful people I owe a deep sense of gratitude especially now that this project has been completed.

G. T. S.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- **acronyms**
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\begin{acronyms}
\acro{ACGIH}{American Conference of Governmental Industrial Hygienists}
\acro{AEC}{Atomic Energy Commission}
\acro{OSHA}{Occupational Health and Safety Commission}
\acro{SAMA}{Scientific Apparatus Makers Association}
\end{acronyms}
```

ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AEC	Atomic Energy Commission
OSHA	Occupational Health and Safety Commission
SAMA	Scientific Apparatus Makers Association

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

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

\term{pNull}Test a one sided hypothesis from a numerically
specified posterior CDF or from a sample from the posterior

\term{sintegral}A numerical integration using Simpson's rule
\end{glossary}
```

GLOSSARY

NormGibbs	Draw a sample from a posterior distribution of data with an unknown mean and variance using Gibbs sampling.
pNull	Test a one sided hypothesis from a numerically specified posterior CDF or from a sample from the posterior
sintegral	A numerical integration using Simpson's rule

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```

\begin{symbols}
\term{A}Amplitude

\term{\hbox{\&}}Propositional logic symbol

\term{a}Filter Coefficient

\bigskip

\term{\mathcal{B}}Number of Beats
\end{symbols}

```

SYMBOLS

- A Amplitude
- $\&$ Propositional logic symbol
- a Filter Coefficient

- \mathcal{B} Number of Beats

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Optionally, you may list the author and affiliation, with

`\introauthor{<author name>}{<affiliation>}`.

This is perhaps most appropriate for an edited book. The name will appear in the Table of Contents underneath 'Introduction.'

```
\begin{introduction}
```

```
\introauthor{Catherine Clark, PhD.}
{Harvard School of Public Health\
Boston, MA, USA}
```

```
The era of modern began in 1958 with the invention of the
integrated circuit by J. S. Kilby
  of Texas Instruments.
His first chip is shown in Fig.~I. For comparison,
Fig.~I.2 shows a modern microprocessor chip, \cite{zberen}.
```

```
This is the introduction.
This is the introduction.
This is the introduction.
This is the introduction.
This is the introduction.
This is the introduction.
```

```
\begin{equation}
ABC {\cal DEF} \alpha\beta\gamma\delta\sum^{abc}_{def}
\end{equation}
```

```
\begin{chapreferences}{10.}
```

```
\bibitem{zhamming}R. W. Hamming, {\it Numerical Methods for Scientists and
Engineers}, Chapter N-1, McGraw-Hill, New York, 1962.
```

```
\bibitem{zHu}J. Lee, K. Mayaram, and C. Hu, ``A Theoretical Study of
Gate/Drain Offset in LDD MOSFETs'' {\it IEEE Electron Device Lett.,} {\bf
EDL-7}(3). 152 (1986).
```

```
\bibitem{zberen}A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and
K.J. O'Connor, ``A Pipelined 32b Microprocessor with 13 kb of Cache Memory,''
{\it Int. Solid State Circuit Conf., Dig. Tech. Pap.,} p. 34 (1987).
```

```
\end{chapreferences}
\end{introduction}
```

INTRODUCTION

CATHERINE CLARK, PHD.

Harvard School of Public Health
Boston, MA, USA

The era of modern began in 1958 with the invention of the integrated circuit by J. S. Kilby of Texas Instruments. His first chip is shown in Fig. I. For comparison, Fig. I.2 shows a modern microprocessor chip, [3].

This is the introduction. This is the introduction. This is the introduction. This is the introduction. This is the introduction. This is the introduction.

$$ABCDEF\alpha\beta\Gamma\Delta\sum_{def}^{abc} \quad (I.1)$$

REFERENCES

1. R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
2. J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).
3. A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and K.J. O'Connor, "A Pipelined 32b Microprocessor with 13 kb of Cache Memory," it Int. Solid State Circuit Conf., Dig. Tech. Pap., p. 34 (1987).

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: The argument in square brackets is sent to the Table of Contents, the one in curly brackets prints on the page.

```
\part[Submicron Semiconductor Manufacture]
{Submicron Semiconductor\\ Manufacture}
```

PART I

SUBMICRON SEMICONDUCTOR MANUFACTURE

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- algorithm
- chap references 2
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- boxed and bold math
- problems
- index
- part/chapter
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: This sample shows how to send another version of the chapter title to the table of contents and runningheads; the prologue; and the theorem and proof environments.

```
\chapter[The Submicrometer Silicon MOSFET]
{The Submicrometer\\ Silicon MOSFET}
```

```
\prologue{The sheer volumne of answers can often stifle
insight...The purpose of computing is insight, not numbers.}
{Hamming \cite{xhamming}}
```

```
\section{Sample Section}
Here is some sample text.
```

```
\begin{theorem}
Here is a sample theorem.
\end{theorem}
\begin{proof}
Here is its proof.
\end{proof}
```

CHAPTER 1

THE SUBMICROMETER SILICON MOSFET

The sheer volume of answers can often stifle insight...The purpose of computing is insight, not numbers.

—Hamming [2]

1.1 Sample Section

Here is some sample text.

Theorem 1.1 *Here is a sample theorem.*

Proof: Here is its proof. ■

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- algorithm
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- boxed and bold math
- problems
- index
- part/chapter
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\chapter{First Edited Book Sample Chapter Title}
\chapterauthors{
G. Alvarez and R. K. Watts
\chapteraffil{Carnegie Mellon University, Pittsburgh, Pennsylvania}
}

\section{Here is a normal section}
Here is some text.
```

CHAPTER 2

FIRST EDITED BOOK SAMPLE CHAPTER TITLE

G. ALVAREZ AND R. K. WATTS

Carnegie Mellon University, Pittsburgh, Pennsylvania

2.1 Here is a normal section

Here is some text.

2.1.1 Here is a subsection

Subsection here.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\chapter{Second Edited Book Sample Chapter Title}
\chapterauthors{
George Smeal, Ph.D.\affilmark{1}, Sally Smith,
M.D.\affilmark{2} and Stanley Kubrick\affilmark{1}
\chapteraffil{\affilmark{1}AT\&T Bell Laboratories
Murray Hill, New Jersey\
\affilmark{2}Harvard Medical School,
Boston, Massachusetts}
}
```

```
\section{Here is a normal section}
Here is some text.
```

```
\subsection{This is the subsection}
Here is some normal text.
Here is some normal text.
Here is some normal text.
```

```
\subsubsection{This is the subsubsection}
Here is some text after the subsubsection.
Here is some text after the subsubsection.
```

```
\paragraph{This is the paragraph}
Here is some normal text.
Here is some normal text.
```

CHAPTER 3

SECOND EDITED BOOK SAMPLE CHAPTER TITLE

GEORGE SMEAL, PH.D.¹, SALLY SMITH, M.D.² AND STANLEY KUBRICK¹

¹AT&T Bell Laboratories Murray Hill, New Jersey

²Harvard Medical School, Boston, Massachusetts

3.1 Here is a normal section

Here is some text.

3.1.1 This is the subsection

Here is some normal text. Here is some normal text. Here is some normal text.

3.1.1.1 This is the subsubsection Here is some text after the subsubsection.
Here is some text after the subsubsection.

This is the paragraph Here is some normal text. Here is some normal text.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Sections and Convenient Macros}
```

```
\subsection[This Version of Section Head will be sent Contents]
{Break Long Section heads\\ with double backslash}
Here is some normal text.
Here is some normal text.
Here is some normal text.
```

```
\subsection[This show how to explicitly break lines
\string\hfill\string\break\space in Table of Contents]
{Here is a Section Title}
See this section head for information on how to explicitly break lines in
table of contents.
```

```
\subsection{How to get \lowercase{lower case} in section head: \lowercase{$p$}$H$}
Here is some normal text.
Here is some normal text.
Here is some normal text.
```

CHAPTER 4

SECTIONS AND CONVENIENT MACROS

4.1 Break Long Section heads with double backslash

Here is some normal text. Here is some normal text. Here is some normal text.

4.2 Here is a Section Title

See this section head for information on how to explicitly break lines in table of contents.

4.3 How to get lower case in section head: *pH*

Here is some normal text. Here is some normal text. Here is some normal text.

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- algorithm
- chap references 2
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- part/chapter
- boxed and bold math
- example
- problems
- exercises
- BibTeX for chapter
- chap appendices
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Boxed and Bold Math}
\subsection{Boxed Math}
```

```
\begin{equation}
\boxit{\alpha\beta\Gamma\Delta}
\label{boxedEquation}
\end{equation}
```

```
\subsection{Bolding Math}
```

This equation is surrounded with `mathbf`. Notice only the ‘t’ is bold.

```
\begin{equation}
\mathbf{
\frac{\partial \varepsilon \rho }{\partial t}=\varepsilon \frac{\partial
\rho }{\partial t}+\rho \frac{\partial \varepsilon }{\partial t}}
\end{equation}%
```

Compared to this which uses `{\tt\string\boldmath}`. Now all the equation is bold.

```
\begin{equation}
\boldmath
\frac{\partial \varepsilon \rho }{\partial t}=\varepsilon \frac{\partial
\rho }{\partial t}+\rho \frac{\partial \varepsilon }{\partial t}}
\end{equation}%
```

You can use `{\tt\string\mathbf}` for a single symbol, which would not otherwise be made bold with `mathbf`. For example, `mathbf` does not make the omega bold:

```
\begin{equation}
123 \mathbf{\omega}
\end{equation}
```

Compared to `boldmath`, which does make the Greek letter bold, but also makes the other terms in the equation bold:

```
\begin{equation}
123 \boldmath\omega
\end{equation}
```

where, `{\tt\string\mathbf\string{<term>\string}}` will make only its argument bold:

```
\begin{equation}
123 \mathbf{\omega}
\end{equation}
```

4.4 Boxed and Bold Math

4.4.1 Boxed Math

$$\boxed{\alpha\beta\Gamma\Delta} \quad (4.1)$$

4.4.2 Bolding Math

This equation is surrounded with `\mathbf{t}`. Notice only the ‘t’ is bold.

$$\frac{\partial \varepsilon \rho}{\partial \mathbf{t}} = \varepsilon \frac{\partial \rho}{\partial \mathbf{t}} + \rho \frac{\partial \varepsilon}{\partial \mathbf{t}} \quad (4.2)$$

Compared to this which uses `\boldmath`. Now all the equation is bold.

$$\frac{\partial \varepsilon \rho}{\partial \mathbf{t}} = \varepsilon \frac{\partial \rho}{\partial \mathbf{t}} + \rho \frac{\partial \varepsilon}{\partial \mathbf{t}} \quad (4.3)$$

You can use `\mathbf{\omega}` for a single symbol, which would not otherwise be made bold with `\mathbf{t}`. For example, `\mathbf{t}` does not make the omega bold:

$$123\omega \quad (4.4)$$

Compared to `\boldmath`, which does make the Greek letter bold, but also makes the other terms in the equation bold:

$$\mathbf{123\omega} \quad (4.5)$$

where, `\mathbf{\omega}` will make only its argument bold:

$$123\omega \quad (4.6)$$

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Example}
```

Here is some text.

```
\begin{example}
```

Use Black's law [Equation (6.3)] to estimate the reduction in useful product life if a metal line is initially run at 55°C at a maximum line current density.

```
\end{example}
```

```
\begin{example}[Optional Example Name]
```

Use Black's law again to estimate an optional reduction in useful product life in a metal line.

```
\end{example}
```

4.5 Example

Here is some text.

■ EXAMPLE 4.1

Use Black's law [Equation (6.3)] to estimate the reduction in useful product life if a metal line is initially run at 55°C at a maximum line current density.

■ EXAMPLE 4.2 Optional Example Name

Use Black's law again to estimate an optional reduction in useful product life in a metal line.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Sample figure and table}
```

```
\begin{figure}[ht]
\centerline{\includegraphics[width=.5\textwidth]{figsamp}}
\caption{Short figure caption.}
\end{figure}
```

```
\begin{figure}[ht]
\vskip2pt
\caption{Oscillograph for memory address access operations,
showing 500 ps address access time and superimposed signals%
of address access in a 1 kbit memory plane.}
\end{figure}
```

```
\begin{table}[ht]
\caption{Small Table}
\centering
\begin{tabular}{cccc}
one&two&three&four\\
\hline
C&D&E&F\\
\hline
\end{tabular}
\end{table}
```

```
\begin{table}[ht]
\caption[Effects of the two types of
 $\alpha\beta\sum^A_B$  scaling proposed by
Dennard and co-workers $\hat{a,b}$ ]{Effects of the two types of
 $\alpha\beta\sum^A_B$  scaling proposed by
Dennard\newline
and co-workers $\hat{a,b}$ }
\begin{tabular*}{\textwidth}{@{\extracolsep{\fill}}lcc}
\hline
Parameter&  $\kappa$  Scaling &  $\kappa$ ,  $\lambda$  Scaling\cr
\hline
Dimension&  $\kappa^{-1}$  &  $\lambda^{-1}$ \cr
Voltage&  $\kappa^{-1}$  &  $\kappa^{-1}$ \cr
Currant&  $\kappa^{-1}$  &  $\lambda/\kappa^2$ \cr
Dopant Concentration&  $\kappa\lambda^2/\kappa$ \cr
\hline
\end{tabular*}
\begin{tablenotes}
 $\hat{a}$ Refs.~19 and 20.

 $\hat{b}\kappa, \lambda>1$ .
\end{tablenotes}
\end{table}
```

4.6 Sample figure and table

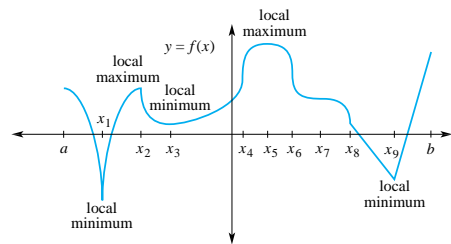


Figure 4.1 Short figure caption.

Figure 4.2 Oscilloscope for memory address access operations, showing 500 ps address access time and superimposed signals of address access in a 1 kbit memory plane.

Table 4.1 Small Table				
one	two	three	four	
C	D	E	F	

Table 4.2 Effects of the two types of $\alpha\beta\sum_B^A$ scaling proposed by Dennard and co-workers^{a,b}

Parameter	κ Scaling	κ, λ Scaling
Dimension	κ^{-1}	λ^{-1}
Voltage	κ^{-1}	κ^{-1}
Current	κ^{-1}	λ/κ^2
Dopant Concentration	κ	λ^2/κ

^aRefs. 19 and 20.

^b $\kappa, \lambda > 1$.

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- references 1
- dedication
- acronyms
- algorithm
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- boxed and bold math
- problems
- index
- part/chapter
- example
- exercises
- chap appendices
- chap references 1
- chap references 2
- BibTeX for chapter
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Side by Side Tables and Figures}
```

```
\begin{figure}[ht]
\sidebyside{
Space for figure...
\caption{This caption will go on the left side of
the page. It is the initial caption of two side-by-side captions.}
}
{
Space for second figure...
\caption{This caption will go on the right side of
the page. It is the second of two side-by-side captions.}
}
\end{figure}
```

```
\begin{table}[ht]
\sidebyside{
\caption{Table Caption}
\begin{tabular}{cccc}
one&two&three&four\\
a &little&sample&table
\end{tabular}
}
{
\caption{Table Caption}
\begin{tabular}{cccc}
A&B&C&D\\
a &second little& sample&table
\end{tabular}
}
\end{table}
```

Notice that the label goes After caption, when using sidebyside:

```
\begin{table}[h]
\sidebyside{\caption{Table Caption}\label{tab1}
(first table here)}
{\caption{Table Caption}\label{tab2} (second table here)}
\end{table}
```

4.7 Side by Side Tables and Figures

Space for figure...

Figure 4.3 This caption will go on the left side of the page. It is the initial caption of two side-by-side captions.

Space for second figure...

Figure 4.4 This caption will go on the right side of the page. It is the second of two side-by-side captions.

Table 4.3 Table Caption

one	two	three	four
a	little	sample	table

Table 4.4 Table Caption

A	B	C	D
a	second little	sample	table

Notice that the label goes After caption, when using sidebyside:

Table 4.5 Table Caption

(first table here)

Table 4.6 Table Caption

(second table here)

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- acknowledgments
- edited book samp 2
- rotate fig/table
- appendix, no title
- title pages
- acronyms
- chap references 1
- references 1
- dedication
- glossary
- chap references 2
- references 2
- list of contributors
- list of symbols
- BibTeX
- contents, list of figures/tables
- Intro
- part/chapter
- boxed and bold math
- problems
- index
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Must use `\usepackage{graphicx}`.

`\rotatebox` will give you an error message if there are any blank lines.

```
\section{Rotated Table}

\begin{table}[ht]
\rotatebox{90}{\vbox{
\caption[Effects of the two types of
 $\alpha\beta\sum^A_B$  scaling proposed by
Dennard and co-workers $\hat{a,b}$ ]{Effects of the two types of
 $\alpha\beta\sum^A_B$  scaling proposed by
Dennard\newline
and co-workers $\hat{a,b}$ }
\begin{tabular*}{\textwidth}{@{\extracolsep{\fill}}lcc}
\hline
Parameter &  $\kappa$  Scaling &  $\kappa$ ,  $\lambda$  Scaling\cr
\hline
Dimension &  $\kappa^{-1}$  &  $\lambda^{-1}$ \cr
Voltage &  $\kappa^{-1}$  &  $\kappa^{-1}$ \cr
Current &  $\kappa^{-1}$  &  $\lambda/\kappa^2$ \cr
Dopant Concentration &  $\kappa$  &  $\lambda^2/\kappa$ \cr
\hline
\end{tabular*}
\begin{tablenotes}
 $\hat{a}$ Refs.~19 and 20.  $\hat{b}\kappa$ ,  $\lambda>1$ .
\end{tablenotes}
}}
```

4.8 Rotated Table

Table 4.7 Effects of the two types of $\alpha_i\beta\sum_B^A$ scaling proposed by Denard and co-workers^{a, b}

Parameter	κ Scaling	κ, λ Scaling
Dimension	κ^{-1}	λ^{-1}
Voltage	κ^{-1}	κ^{-1}
Current	κ^{-1}	λ/κ^2
Dopant Concentration	κ	λ^2/κ

^a Refs. 19 and 20. ^b $\kappa, \lambda > 1$.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- **algorithm**
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Algorithm}
This is a sample algorithm.\index{algorithm!State transition}

\begin{algorithm}
{\bf state\_transition algorithm} $\{$$
\quad \text{for each neuron } \$j\text{in}\{0,1,\ldots,M-1\}$
\quad $\{$$
\quad \quad \text{calculate the weighted sum } \$S\_j$ using Eq. (6);
\quad \quad \text{if } (\$S\_j>t\_j$)
\quad \quad \quad $\{$$turn ON neuron; \$Y\_1=+1\}$
\quad \quad \text{else if } (\$S\_j<t\_j$)
\quad \quad \quad $\{$$turn OFF neuron; \$Y\_1=-1\}$
\quad \quad \text{else}
\quad \quad \quad $\{$$no change in neuron state; \$y\_j$ remains \%
unchanged;\$}\}$
\quad $\}$
$\}$
\end{algorithm}
```

4.9 Algorithm

This is a sample algorithm.

Algorithm 4.1

```

state.transition algorithm {
  for each neuron  $j \in \{0, 1, \dots, M-1\}$ 
  {
    calculate the weighted sum  $S_j$  using Eq. (6);
    if ( $S_j > t_j$ )
      {turn ON neuron;  $Y_1 = +1$ }
    else if ( $S_j < t_j$ )
      {turn OFF neuron;  $Y_1 = -1$ }
    else
      {no change in neuron state;  $y_j$  remains unchanged;}
  }
}

```

- set page display ▪ begin book ▪ title pages ▪ dedication ▪ list of contributors ▪ contents, list of figures/tables
- forward ▪ preface ▪ acknowledgments ▪ acronyms ▪ glossary ▪ list of symbols ▪ Intro ▪ part/chapter
- chapter/section ▪ edited book samp 1 ▪ edited book samp 2 ▪ sections ▪ boxed and bold math ▪ example
- figure/table ▪ side-by-side figs/tabs ▪ rotate fig/table ▪ algorithm ▪ **listing** ▪ problems ▪ exercises
- write solutions ▪ print solutions ▪ chap references 1 ▪ chap references 2 ▪ BibTeX for chapter ▪ chap appendices
- appendix ▪ appendix, no title ▪ references 1 ▪ references 2 ▪ BibTeX ▪ index ▪ topic/author index

L^AT_EX Code for Following Page or Pages

```
\section{Listing}

\begin{enumerate}
\item
This is the first item in the numbered list.

\item
This is the second item in the numbered list.
This is the second item in the numbered list.
This is the second item in the numbered list.
\end{enumerate}

\begin{itemize}
\item
This is the first item in the itemized list.

\item
This is the first item in the itemized list.
This is the first item in the itemized list.
\end{itemize}

\begin{itemize}
\item[]
These items are indented but don't have markers.

\item[]
These items are indented but don't have markers.
These items are indented but don't have markers.
\end{itemize}
```

4.10 Listing

1. This is the first item in the numbered list.
 2. This is the second item in the numbered list. This is the second item in the numbered list. This is the second item in the numbered list.
- This is the first item in the itemized list.
 - This is the first item in the itemized list. This is the first item in the itemized list. This is the first item in the itemized list.

These items are indented but don't have markers.

These items are indented but don't have markers. These items are indented but don't have markers.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- **problems**
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\begin{problems}
```

```
\prob
```

For Hooker's data, Problem 1.2, use the Box and Cox and Atkinson procedures to determine a appropriate transformation of PRES in the regression of PRES on TEMP. find $\hat{\lambda}$, $\tilde{\lambda}$, the score test, and the added variable plot for the score. Summarize the results.

```
\prob
```

The following data were collected in a study of the effect of dissolved sulfur on the surface tension of liquid copper (Baes and Killogg, 1953).

```
{\centering
```

```
\vskip6pt
```

```
\begin{tabular}{rlcc}
```

```
\hline
```

```
&&\multicolumn{2c}{ $Y$ = Decrease in Surface Tension}\\
```

```
\multicolumn{2c}{ $x$  = Weight \% sulfur}
```

```
&\multicolumn{2c}{(dynes/cm), two Replicates}\\
```

```
\hline
```

```
0.&034&301&316\\
```

```
0.&093&430&422\\
```

```
0.&30&593&586\\
```

```
\hline
```

```
\end{tabular}\vskip6pt}
```

```
\subprob
```

Find the transformations of X and Y sot that in the transformed scale the regression is linear.

```
\subprob
```

Assuming that X is transformed to $\ln(X)$, which choice of Y gives better results, Y or $\ln(Y)$? (Sclove, 1972).

```
\sidebysidesubprob{In the case of  $\alpha_1$ ?}{In the case of  $\alpha_2$ ?}
```

```
\prob
```

Examine the Longley data, Problem 3.3, for applicability of assumptions of the linear model.

```
\sidebysideprob{In the case of  $\Gamma_1$ ?}{In the case of  $\Gamma_2$ ?}
```

```
\end{problems}
```

PROBLEMS

4.1 For Hooker's data, Problem 1.2, use the Box and Cox and Atkinson procedures to determine an appropriate transformation of PRES in the regression of PRES on TEMP. find $\hat{\lambda}$, $\tilde{\lambda}$, the score test, and the added variable plot for the score. Summarize the results.

4.2 The following data were collected in a study of the effect of dissolved sulfur on the surface tension of liquid copper (Baes and Killogg, 1953).

$x = \text{Weight \% sulfur}$		$Y = \text{Decrease in Surface Tension}$ (dynes/cm), two Replicates	
0.	034	301	316
0.	093	430	422
0.	30	593	586

- Find the transformations of X and Y so that in the transformed scale the regression is linear.
- Assuming that X is transformed to $\ln(X)$, which choice of Y gives better results, Y or $\ln(Y)$? (Sclove, 1972).

c) In the case of α_1 ?

d) In the case of α_2 ?

4.3 Examine the Longley data, Problem 3.3, for applicability of assumptions of the linear model.

4.4 In the case of Γ_1 ?

4.5 In the case of Γ_2 ?

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- sections
- algorithm
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- boxed and bold math
- problems
- BibTeX for chapter
- index
- part/chapter
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\begin{exercises}
\exer
For Hooker's data, Exercise 1.2, use the Box and Cox and Atkinson procedures
to determine a appropriate transformation of PRES in the regression of PRES
on TEMP. find  $\hat{\lambda}$ ,  $\tilde{\lambda}$ , the score test, and the added
variable plot for the score. Summarize the results.

\exer
The following data were collected in a study of the effect of dissolved sulfur
on the surface tension of liquid copper (Baes and Killogg, 1953).

{\centering
\vskip6pt
\begin{tabular}{rlcc}
\hline
&\multicolumn{2}{ $\$Y\$=$  Decrease in Surface Tension}\\
&\multicolumn{2}{ $\$x\$ =$  Weight \% sulfur}
&\multicolumn{2}{(dynes/cm), two Replicates}\\
\hline
0.&034&301&316\\
0.&093&430&422\\
0.&30&593&586\\
\hline
\end{tabular}\vskip6pt}

\subexer
Find the transformations of  $X$  and  $Y$  sot that in the transformed scale
the regression is linear.

\subexer
Assuming that  $X$  is transformed to  $\ln(X)$ , which choice of  $Y$  gives
better results,  $Y$  or  $\ln(Y)$ ? (Sclove, 1972).

\sidebysidesubexer{In the case of  $\Delta_1$ ?}{In the case of  $\Delta_2$ ?}

\exer
Examine the Longley data, Problem 3.3, for applicability of assumptions of the
linear model.

\sidebysideexer{In the case of  $\Gamma_1$ ?}{In the case of  $\Gamma_2$ ?}
\end{exercises}
```

EXERCISES

4.1 For Hooker's data, Exercise 1.2, use the Box and Cox and Atkinson procedures to determine an appropriate transformation of PRES in the regression of PRES on TEMP. find $\hat{\lambda}$, $\tilde{\lambda}$, the score test, and the added variable plot for the score. Summarize the results.

4.2 The following data were collected in a study of the effect of dissolved sulfur on the surface tension of liquid copper (Baes and Killogg, 1953).

		Y = Decrease in Surface Tension	
$x = \text{Weight \% sulfur}$		(dynes/cm), two Replicates	
0.	034	301	316
0.	093	430	422
0.	30	593	586

- Find the transformations of X and Y so that in the transformed scale the regression is linear.
- Assuming that X is transformed to $\ln(X)$, which choice of Y gives better results, Y or $\ln(Y)$? (Sclove, 1972).
- In the case of Δ_1 ?
- In the case of Δ_2 ?

4.3 Examine the Longley data, Problem 3.3, for applicability of assumptions of the linear model.

4.4 In the case of Γ_1 ?

4.5 In the case of Γ_2 ?

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Entering Solutions, and Solution section.

For a solution section at the end of your book, and the ability to enter Solutions within the Problem or Exercise sections, enter `\usepackage{answers}` before `\begin{document}`

Then either in the Problems or the Exercises environment, enter the solution to each or selected problems, or exercise, after either the `\prob` command and problem text, or after the `\exer` command and exercise text.

The problems, or exercises, will be numbered sequentially throughout each chapter.

Notice that the solutions are not printed where they are typed in, between the problems or exercises. The solutions will appear the solution section at the end of the book.

```
\begin{problems}
\prob
First problem here.
```

```
\begin{sol}
Here is the first solution
\end{sol}
```

```
\prob
Here is the second problem.
```

```
\begin{sol}
Here is the second solution
\end{sol}
\end{problems}
```

Notice that the solutions are not printed where they are typed in, between the problems or exercises. The solutions will appear the solution section at the end of the book.

PROBLEMS

- 4.1 First problem here.
- 4.2 Here is the second problem.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- **print solutions**
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: At the end of the book type in `\solutions` and `\solutionchap{}` or `\solutionappendix{}` with the chapter number or appendix letter, for each chapter or appendix where solutions were written.

```
\section{Printing the Solutions}
\solutions
% typically listed like this:
%\solutionchap{1}
%\solutionchap{2}
%\solutionappendix{A}
%\solutionappendix{B}

\solutionchap{4}
```

PROBLEM SOLUTIONS

SOLUTIONS FOR CHAPTER 4

4.1 Here is the first solution

4.2 Here is the second solution

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Remember to type in the widest label:

```
\begin{chapreferences}{<widest entry>}...
\end{chapreferences}
```

```
\chapter{Chapter References}
\section{Chapter References: Numbered references}
This is a summary of this chapter.
Here are some references: \cite{xkilby}, \cite{xberen}.
```

```
\begin{chapreferences}{10.}
```

```
\bibitem{xkilby}J. S. Kilby, ``Invention of the Integrated Circuit,'' {\it
IEEE Trans. Electron Devices}, {\bf ED-23}, 648 (1976).
```

```
\bibitem{xhamming}R. W. Hamming, {\it Numerical Methods for Scientists and
Engineers}, Chapter N-1, McGraw-Hill, New York, 1962.
```

```
\bibitem{xHu}J. Lee, K. Mayaram, and C. Hu, ``A Theoretical Study of
Gate/Drain Offset in LDD MOSFETs'' {\it IEEE Electron Device Lett.}, {\bf
EDL-7}(3). 152 (1986).
```

```
\bibitem{xberen}A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and
K.J. O'Connor, ``A Pipelined 32b Microprocessor with 13 kb of Cache Memory,''
{\it Int. Solid State Circuit Conf., Dig. Tech. Pap.}, p. 34 (1987).
```

```
\end{chapreferences}
```

CHAPTER 5

CHAPTER REFERENCES

5.1 Chapter References: Numbered references

This is a summary of this chapter. Here are some references: [1], [4].

REFERENCES

1. J. S. Kilby, "Invention of the Integrated Circuit," *IEEE Trans. Electron Devices*, **ED-23**, 648 (1976).
2. R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
3. J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).
4. A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and K.J. O'Connor, "A Pipelined 32b Microprocessor with 13 kb of Cache Memory," in *Int. Solid State Circuit Conf., Dig. Tech. Pap.*, p. 34 (1987).

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Remember to type in the widest label:

```
\begin{chapreferences}{<widest entry>}...
\end{chapreferences}
```

```
\section{Chapter References: Named references}
```

Here are some references: \cite{kil}, \cite{ham}.

```
\begin{chapreferences}{Ham62}
```

```
\bibitem[Kil76]{kil}J. S. Kilby, ``Invention of the Integrated Circuit,''
{\it IEEE Trans. Electron Devices,} {\bf ED-23,} 648 (1976).
```

```
\bibitem[Ham62]{ham}R. W. Hamming, {\it Numerical Methods for Scientists and
Engineers}, Chapter N-1, McGraw-Hill, New York, 1962.
```

```
\bibitem[Hu86]{c-hu}J. Lee, K. Mayaram, and C. Hu, ``A Theoretical Study of
Gate/Drain Offset in LDD MOSFETs'' {\it IEEE Electron Device Lett.,} {\bf
EDL-7} (3). 152 (1986).
\end{chapreferences}
```

5.2 Chapter References: Named references

Here are some references: [Kil76], [Ham62].

REFERENCES

- [Kil76] J. S. Kilby, "Invention of the Integrated Circuit," *IEEE Trans. Electron Devices*, **ED-23**, 648 (1976).
- [Ham62] R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
- [Hu86] J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3), 152 (1986).

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- sections
- algorithm
- chap references 2
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- part/chapter
- boxed and bold math
- problems
- index
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: Using BibTeX for a chapter bibliography is easy, but you must remember that you need to include

`\usepackage{chapterbib}`.

After you run L^AT_EX on your file several times, you need to enter `bibtex <chaptername>` for each chapter.

See [BibTeX](#) for more information on the mechanics of using BibTeX.

```
\section{Chapter References: BibTeX}
```

A chapter bibliography using Bib\TeX\ is optional, but if you do want to use Bib\TeX\ here are the commands that will make it work in one chapter of an edited book.

Here are citations that are activated with the chapbibliography, using chapbblname 'w-bksamp'.

```
\cite{bm84},
\cite{jb:spectral},
\cite{jb:uncert},
\cite{bhw:blproof},
\cite{cw:cardspline}.
```

```
\bibliographystyle{plain}
\bibliography{sampbib}
```

5.3 Chapter References: BibTeX

A chapter bibliography using BibTeX is optional, but if you do want to use BibTeX here are the commands that will make it work in one chapter of an edited book.

Here are citations that are activated with the chapbibliography. [1], [2], [3], [4], [5].

References

1. J. W. Barrett and Karen W. Morton. Approximate symmetrization and Petrov-Galerkin methods for diffusion-convection problems. *Comput. Methods Appl. Mech. Engrg.*, 45:97–122, 1984.
2. John Benedetto. *Spectral Synthesis*. Academic Press, New York, 1975.
3. John Benedetto. Uncertainty principle inequalities and spectrum estimation. In Jefferson S. Byrnes and John L. Byrnes, editors, *Recent Advances in Fourier Analysis*, NATO-ASI Series C, pages 143–182. Kluwer Academic Publishers, 1990.
4. John Benedetto, Charles Heil, and Daniel Walnut. Remarks on the proof of the Balian-Low theorem. *Canad. J. Math.* to appear.
5. C. K. Chui and J. Z. Wang. A cardinal spline approach to wavelets. *Proc. Amer. Math. Soc.* to appear.

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\chapter{Chapter Appendices}
\chapappendix{This is the Chapter Appendix Title}
This is an appendix with a title.
```

```
\begin{figure}[ht]
\caption{This is a chapter appendix figure caption.}
\end{figure}
```

```
\begin{table}[ht]
\caption{This is a chapter appendix table caption.}
\end{table}
```

```
\chapappendix{}
This is a Chapter Appendix without a title.
```

```
\begin{equation}
g_i(y|f)=\sum_x P(x|F_n)f_i(y|x){\cal ABC}
\end{equation}
where  $g_i(y|F_n)$  is the function specifying the probability an object will
display a value  $y$  on a dimension  $i$  given  $F_n$  the observed feature
structure of all the objects.
```

CHAPTER 6

CHAPTER APPENDICES

Appendix: This is the Chapter Appendix Title

Figure 6-A.1 This is a chapter appendix figure caption.

Table 6-A.1 This is a chapter appendix table caption

Appendix

This is a Chapter Appendix without a title.

$$g_i(y|f) = \sum_x P(x|F_n) f_i(y|x) \mathcal{ABC} \quad (\text{B.1})$$

where $g_i(y|F_n)$ is the function specifying the probability an object will display a value y on a dimension i given F_n the observed feature structure of all the objects.

Survey Methodology, Second Edition.

By Robert M. Groves Copyright © 2012 John Wiley & Sons, Inc.

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- references 1
- dedication
- acronyms
- sections
- algorithm
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- Intro
- part/chapter
- boxed and bold math
- problems
- index
- example
- exercises
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

```

\appendix{This is the Appendix Title}
\markboth{Short appendix title}{Short appendix title}
This is an appendix with a title.
\begin{equation}
\alpha\beta\gamma\delta
\end{equation}\index{Appendix!Title}

\begin{figure}[ht]
\caption{This is an appendix figure caption.}
\end{figure}

\begin{table}[ht]
\caption{Appendix table caption}
\centering
\begin{tabular}{cccc}
\hline
\alpha&\beta&\gamma&\delta\\
\hline
$\alpha$&$\beta$&$\gamma$&$\delta$\\
\hline
\end{tabular}
\end{table}

```

APPENDIX A

THIS IS THE APPENDIX TITLE

This is an appendix with a title.

$$\alpha\beta\Gamma\Delta \tag{A.1}$$

Figure A.1 This is an appendix figure caption.

Table A.1 Appendix table caption

Alpha	Beta	Gamma	Delta
α	β	Γ	Δ

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

```
\appendix{}
```

This is an appendix without a title.

```
\begin{equation}
```

```
g_i(y|f)=\sum_x P(x|F_n)f_i(y|x){\cal ABC}
```

```
\end{equation}
```

where $g_i(y|F_n)$ is the function specifying the probability an object will display a value y on a dimension i given F_n the observed feature structure of all the objects.

APPENDIX B

This is an appendix without a title.

$$g_i(y|f) = \sum_x P(x|F_n) f_i(y|x) \mathcal{ABC} \quad (\text{B.1})$$

where $g_i(y|F_n)$ is the function specifying the probability an object will display a value y on a dimension i given F_n the observed feature structure of all the objects.

- set page display
- forward
- chapter/section
- figure/table
- write solutions
- appendix
- begin book
- preface
- edited book samp 1
- side-by-side figs/tabs
- print solutions
- appendix, no title
- title pages
- acknowledgments
- edited book samp 2
- rotate fig/table
- chap references 1
- references 1
- dedication
- acronyms
- sections
- algorithm
- chap references 2
- references 2
- list of contributors
- glossary
- listing
- BibTeX
- contents, list of figures/tables
- list of symbols
- Intro
- boxed and bold math
- problems
- index
- part/chapter
- example
- exercises
- chap appendices
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: This shows numbered references.

Remember to type in the widest label:

```
\begin{references}{<widest entry>}...
\end{references}
```

```
\begin{references}{10.}
\bibitem{akilby}J. S. Kilby, ``Invention of the Integrated Circuit,'' {\it
IEEE Trans. Electron Devices,} {\bf ED-23,} 648 (1976).

\bibitem{ahamming}R. W. Hamming, {\it Numerical Methods for Scientists and
Engineers}, Chapter N-1, McGraw-Hill, New York, 1962.

\bibitem{aHu}J. Lee, K. Mayaram, and C. Hu, ``A Theoretical Study of
Gate/Drain Offset in LDD MOSFETs'' {\it IEEE Electron Device Lett.,} {\bf
EDL-7}(3). 152 (1986).

\bibitem{aberen}A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and
K.J. O'Connor, ``A Pipelined 32b Microprocessor with 13 kb of Cache Memory,''
{\it Int. Solid State Circuit Conf., Dig. Tech. Pap.,} p. 34 (1987).
\end{references}
```

REFERENCES

1. J. S. Kilby, "Invention of the Integrated Circuit," *IEEE Trans. Electron Devices*, **ED-23**, 648 (1976).
2. R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
3. J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).
4. A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and K.J. O'Connor, "A Pipelined 32b Microprocessor with 13 kb of Cache Memory," in *Int. Solid State Circuit Conf., Dig. Tech. Pap.*, p. 34 (1987).

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: This shows named references.

Remember to type in the widest label:

```
\begin{references}{<widest entry>}...
\end{references}
```

```
\begin{references}{Ham62}
```

```
\bibitem[Kil76]{kilb}J. S. Kilby, ``Invention of the Integrated Circuit,''
{\it IEEE Trans. Electron Devices,} {\bf ED-23,} 648 (1976).
```

```
\bibitem[Ham62]{hamm}R. W. Hamming, {\it Numerical Methods for Scientists and
Engineers}, Chapter N-1, McGraw-Hill, New York, 1962.
```

```
\bibitem[Hu86]{lee}J. Lee, K. Mayaram, and C. Hu, ``A Theoretical Study of
Gate/Drain Offset in LDD MOSFETs'' {\it IEEE Electron Device Lett.,} {\bf
EDL-7}(3). 152 (1986).
```

```
\bibitem[Ber87]{berm}A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman,
and K.J. O'Connor, ``A Pipelined 32b Microprocessor with 13 kb of Cache
Memory,'' {\it Int. Solid State Circuit Conf., Dig. Tech. Pap.,} p. 34 (1987).
```

```
\end{references}
```

REFERENCES

- [Kil76] J. S. Kilby, "Invention of the Integrated Circuit," *IEEE Trans. Electron Devices*, **ED-23**, 648 (1976).
- [Ham62] R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
- [Hu86] J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).
- [Ber87] A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and K.J. O'Connor, "A Pipelined 32b Microprocessor with 13 kb of Cache Memory," in *Int. Solid State Circuit Conf., Dig. Tech. Pap.*, p. 34 (1987).

▪ set page display ▪ begin book ▪ title pages ▪ dedication ▪ list of contributors ▪ contents, list of figures/tables
 ▪ forward ▪ preface ▪ acknowledgments ▪ acronyms ▪ glossary ▪ list of symbols ▪ Intro ▪ part/chapter
 ▪ chapter/section ▪ edited book samp 1 ▪ edited book samp 2 ▪ sections ▪ boxed and bold math ▪ example
 ▪ figure/table ▪ side-by-side figs/tabs ▪ rotate fig/table ▪ algorithm ▪ listing ▪ problems ▪ exercises
 ▪ write solutions ▪ print solutions ▪ chap references 1 ▪ chap references 2 ▪ BibTeX for chapter ▪ chap appendices
 ▪ appendix ▪ appendix, no title ▪ references 1 ▪ references 2 ▪ **BibTeX** ▪ index ▪ topic/author index

L^AT_EX Code for Following Page or Pages

Comment: To use BibTeX follow these steps:

1. Make a xxx.bib file, with 'xxx' being any file name you choose. This is the database file including all the references.
2. Now you must choose a bibliography style with
`\bibliographystyle{<name of style>}`
 Wiley doesn't require any particular bibliography style, so it is up to you to decide on a bibliography style that you like.
 You must have a matching .bst file for any style you choose. If you don't have the .bst file on your system you should be able to find it online. Download the file and save in the same directory where you are making your book.
3. Next you must write `\bibliography{zzz}`, with 'zzz' being the name of the .bib database file that you have written. You can also use more than one .bib file, in which case you must separate the filenames with a comma: `\bibliography{zzz,yyy}`,
4. Using the label names of entries in the .bib database file, you can now write either `\cite{<label>}` or `\nocite{<label>}` for each reference that you want to appear in the bibliography.
`\cite` will produce a printed citation, `\nocite` will not print, but in either case the entry in the .bib file matching the label name will appear in the finished bibliography.
5. Run LaTeX on the .tex document, producing the usual .aux file.
6. Run BibTeX on the .tex document, producing a .bbl file,
7. And, finally, run LaTeX on the .tex file, and Voila! your bibliography will appear where you have written `\bibliography{(your bib file name)}`.

```

\bibliographystyle{plain}
\bibliography{sampbib}

```

REFERENCES

1. J. W. Barrett and Karen W. Morton. Approximate symmetrization and Petrov-Galerkin methods for diffusion-convection problems. *Comput. Methods Appl. Mech. Engrg.*, 45:97–122, 1984.
2. John Benedetto. *Spectral Synthesis*. Academic Press, New York, 1975.
3. John Benedetto. Uncertainty principle inequalities and spectrum estimation. In Jefferson S. Byrnes and John L. Byrnes, editors, *Recent Advances in Fourier Analysis*, NATO-ASI Series C, pages 143–182. Kluwer Academic Publishers, 1990.
4. John Benedetto, Charles Heil, and Daniel Walnut. Remarks on the proof of the Balian-Low theorem. *Canad. J. Math.* to appear.
5. C. K. Chui and J. Z. Wang. A cardinal spline approach to wavelets. *Proc. Amer. Math. Soc.* to appear.

- set page display • begin book • title pages • dedication • list of contributors • contents, list of figures/tables
 • forward • preface • acknowledgments • acronyms • glossary • list of symbols • Intro • part/chapter
 • chapter/section • edited book samp 1 • edited book samp 2 • sections • boxed and bold math • example
 • figure/table • side-by-side figs/tabs • rotate fig/table • algorithm • listing • problems • exercises
 • write solutions • print solutions • chap references 1 • chap references 2 • BibTeX for chapter • chap appendices
 • appendix • appendix, no title • references 1 • references 2 • BibTeX • index • topic/author index

Comment: Making an index with the Wiley macro sets is the same as standard \LaTeX .

[illegible]

Index

A

Abrupt changes, 2
Activation function, 275, 276, 281, 283
 hyperbolic tangent, 279
 logistic, 278
 piecewise-linear, 276, 277
 sigmoidal, 276–278
 signum, 278–280
 squashing, 277
 threshold, 276, 280
Adaptive estimation, 284
Adaptive features, 301
Adaptive nonlinear model, 275
Admissibility condition, 101, 103
Aggregate heterogeneity
 trader classes, 10
Akaike Information Criteria, 195, 294
Alias, 107, 166
Aliasing, 107
Almon lag, 24
Amplitude, 26, 27, 29
Amplitude spectrum, 270
Analysis equation, 30, 103
Approximation, 276
 function, 273

Artificial neural network, 272
Artificial neuron, 276
Asymmetry
 cross-correlation, 10
Augmented Dickey-Fuller test, 150, 152
Autocorrelation, 55
 correlogram, 62
 definition of, 61
 in practice, 62, 63
 pitfalls, 61, 62
 sample, 61
 spurious, 61
Autocorrelation function (ACF), 194, 236
Autocovariance function
 autocorrelation, 3, 61
 definition of, 56
Autocovariance sequence (ACVS), 61–63, 148,
 183, 236, 267
Autospectra, 252, 254, 269

B

Backpropagation, 283
 dynamic, 302
Bagging, 299
(and so on)

- set page display
- begin book
- title pages
- dedication
- list of contributors
- contents, list of figures/tables
- forward
- preface
- acknowledgments
- acronyms
- glossary
- list of symbols
- Intro
- part/chapter
- chapter/section
- edited book samp 1
- edited book samp 2
- sections
- boxed and bold math
- example
- figure/table
- side-by-side figs/tabs
- rotate fig/table
- algorithm
- listing
- problems
- exercises
- write solutions
- print solutions
- chap references 1
- chap references 2
- BibTeX for chapter
- chap appendices
- appendix
- appendix, no title
- references 1
- references 2
- BibTeX
- index
- topic/author index

L^AT_EX Code for Following Page or Pages

Comment: To make an author index as well as a topic index, you must include `\usepackage{multind}` and enter the commands as you see below.

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Making Multiple Indices %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%% 1.
%% \usepackage{multind}
%% \makeindex{book}
%% \makeindex{authors}
%% \begin{document}
%%
%% 2.
%% % add index terms to your book, ie,
%% \index{book}{A term to go to the topic index}
%% \index{authors}{Put this author in the author index}

\index{book}{Cows}
\index{book}{Cows!Jersey}
\index{book}{Cows!Jersey!Brown}

\index{author}{Douglas Adams}
\index{author}{Boethius}
\index{author}{Mark Twain}

%% 3. On command line type
%% makeindex topic
%% makeindex authors
%%
%% 4.
%% this is a Wiley command to make the indices print:
\multiprintindex{book}{Topic index}
\multiprintindex{authors}{Author index}

```

Topic Index

Cows, i
 Jersey, i
 Brown, i

Author Index

Boethius, i

Douglas Adams, i

Mark Twain, i