

PLAYCB

PLAYCB

Biblioteca gráfica para programadores inexperientes

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To my parents

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CONTENTS IN BRIEF

PART I SUBMICRON SEMICONDUCTOR MANUFACTURE

1	Primeiro capítulo e eu não sei o que tô fazendo	3
2	First Edited Book Sample Chapter Title G. Alvarez and R. K. Watts	7
3	Second Edited Book Sample Chapter Title George Smeal, Ph.D., Sally Smith, M.D. and Stanley Kubrick	9

CONTENTS

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

PART I SUBMICRON SEMICONDUCTOR MANUFACTURE

1	Primeiro capítulo e eu não sei o que tô fazendo	3
1.1	Sessão	3
		ix

1.1.1	Eu preciso de sub-sessão?	4
1.2	Tips On Special Section Heads	4
1.3	This Version of Section Head will be sent Contents	4
1.4	This show how to explicitly break lines in Table of Contents	4
1.5	How to get lower case in section head: pH	4
1.6	How to use a macro that has both upper and lower case parts: V_{Txyz}	4
1.7	Equation	5
2	First Edited Book Sample Chapter Title	7
	G. Alvarez and R. K. Watts	
2.1	Here is a normal section	7
3	Second Edited Book Sample Chapter Title	9
	George Smeal, Ph.D., Sally Smith, M.D. and Stanley Kubrick	
3.1	Sample Section	9
3.2	Example, Figure and Tables	10
3.2.1	Side by Side Tables and Figures	10
3.3	Algorithm	11
	Problems	12
	Exercises	12
3.4	Summary	13
	References	13
	Appendix: This is the Chapter Appendix Title	13
	Chapter Appendix	14
A	This is the Appendix Title	15
B	Appendix	17
C	Alternate Reference Styles	19
	References	21
	References	23

LIST OF FIGURES

3.1	Short figure caption.	10
3.2	Oscilloscope for memory address access operations, showing 500 ps address access time and superimposed signals of address access in 1 kbit memory plane.	10
3.3	This caption will go on the left side of the page. It is the initial caption of two side-by-side captions.	11
3.4	This caption will go on the right side of the page. It is the second of two side-by-side captions.	11
3-A.1	This is an appendix figure caption.	14
A.1	This is an appendix figure caption.	15

LIST OF TABLES

3.1	Small Table	10
3.2	Effects of the two types of $\alpha\beta \sum_B^A$ scaling proposed by Dennard and co-workers ^{a,b}	10
3.3	Table Caption	11
3.4	Table Caption	11
3-A.1	This is an appendix table caption	14
A.1	Appendix table caption	15

FOREWORD

This is the foreword to the book.

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

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.

ACRONYMS

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

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

SYMBOLS

- A Amplitude
- $\&$ Propositional logic symbol
- a Filter Coefficient
- \mathcal{B} Number of Beats

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 [1]. His first chip is shown in Fig. I. For comparison, Fig. I.2 shows a modern microprocessor chip, [4].
This is the introduction. This is the introduction. This is the introduction.
This is the introduction. This is the introduction. This is the introduction.

$$ABC\mathcal{DE}\mathcal{F}\alpha\beta\Gamma\Delta\sum_{def}^{abc} \tag{I.1}$$

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).

PART I

SUBMICRON SEMICONDUCTOR MANUFACTURE

CHAPTER 1

PRIMEIRO CAPÍTULO PFV, COMO ASSIM

Nunca durma embaixo de um pé de jaca

—ditado popular [2]

1.1 Sessão

Aqui vem uma explicação sobre o que diabos é esse capítulo e essa sessão.

Listing 1.1 Teste

```
1 | #include <playCB/playcb.h>
2 | int main() {
3 |
4 |     AbreJanela(400, 400, "Ola Mundo");
5 |
6 |     PintarFundo(255, 255, 255);
7 |     MostraPlanoCartesiano(10);
8 |
9 |     Desenha();
10| }
```


E aqui apareceu um código de teste da playcb, colorido usando gambiarra para deixá-lo bonito. áãÊêóÔÃ

1.1.1 Eu preciso de sub-sessão?

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

1.1.1.1 Sub-sub sessão Here is some text after the subsection. Here is some text after the subsection. Here is some text after the subsection. Here is some text after the subsection.

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

1.2 Tips On Special Section Heads

Here are some things you can do for a special section head.

1.3 Break Long Section heads with double backslash

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

1.4 Here is a Section Title

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

1.5 How to get lower case in section head: pH

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

1.6 How to use a macro that has both upper and lower case parts:

V_{Txyz}

See the top of this file where the definition and box were set.

1.7 Equation

For optimal vertical spacing, no blank lines before or after equations

$$\alpha\beta\Gamma\Delta \tag{1.1}$$

as you see here.

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.

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 Sample Section

Here is some sample text.

3.2 Example, Figure and Tables

EXAMPLE 3.1 Optional Example Name

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.

illustration here

Figure 3.1 Short figure caption.

Figure 3.2 Oscillograph for memory address access operations, showing 500 ps address access time and superimposed signals of address access in 1 kbit memory plane.

Table 3.1 Small Table			
one	two	three	four
C	D	E	F

Table 3.2 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}
Currant	κ^{-1}	λ/κ^2
Dopant Concentration	κ	λ^2/κ

^aRefs. 19 and 20.

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

3.2.1 Side by Side Tables and Figures

The command `\sidebyside{\}{\}` works similarly for tables:

When using `\sidebyside`, one must use the cross referencing command `\label{\}` after and outside of `\caption{\}`:

```
\begin{table}
\sidebyside{\caption{Table Caption}\label{tab1}}
```

Space for second figure...

Figure 3.4 This caption will go on the right side of the page. It is the second of two side-by-side captions.

Table 3.4 Table Caption

A	B	C	D
a	second little	sample	table

or,

3.3 Algorithm

Algorithm 3.1

[illegible]

This is a sample of extract or quotation. This is a sample of extract or quotation. This is a sample of extract or quotation.

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.

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.

PROBLEMS

3.1 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 $\hat{\lambda}$, $\bar{\lambda}$, the score test, and the added variable plot for the score. Summarize the results.

3.2 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 = Weight % sulfur		(dynes/cm), two Replicates	
0.	034	301	316
0.	093	430	422
0.	30	593	586

- a) Find the transformations of X and Y sot that in the transformed scale the regression is linear.
- b) 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 ?

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

3.4 In the case of Γ_1 ?

3.5 In the case of Γ_2 ?

EXERCISES

3.1 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.

3.2 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 = Weight % sulfur	Y = 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 $\ln(Y)$? (Slove, 1972).
- In the case of Δ_1 ?
- In the case of Δ_2 ?

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

3.4 In the case of Γ_1 ?

3.5 In the case of Γ_2 ?

3.4 Summary

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).

Appendix: This is the Chapter Appendix Title

This is an appendix with a title.

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

Figure 3-A.1 This is an appendix figure caption.**Table 3-A.1** This is an appendix table caption

Date	Event
1867	Maxwell speculated the existence of electromagnetic waves.
1887	Hertz showed the existence of electromagnetic waves.
1890	Branly developed technique for detecting radio waves.
1896	Marconi demonstrated wireless telegraph.
1897	Marconi patented wireless telegraph.
1898	Marconi awarded patent for tuned communication.
1898	Wireless telegraphic connection between England and France established.

Appendix

This is a Chapter Appendix without a title.

Here is a math test to show the difference between using Computer Modern math fonts and MathTimes math fonts. When MathTimes math fonts are used the letters in an equation will match TimesRoman italic in the text. (g, i, y, x, P, F, n, f, etc.) Caligraphic fonts, used for *ABC* below, will stay the same in either case.

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

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.

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

APPENDIX B

This is an appendix without a title.

Here is a math test to show the difference between using Computer Modern math fonts and MathTimes math fonts. When MathTimes math fonts are used the letters in an equation will match TimesRoman italic in the text. (g, i, y, x, P, F, n, f, etc.) Caligraphic fonts, used for \mathcal{ABC} below, will stay the same in either case.

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

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.

APPENDIX C

ALTERNATE REFERENCE STYLES

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).

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- [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).

