

A Document Preparation System User's Guide and Reference Manual

Leslie Lamport

Digital Equipment Corporation

Illustrations by Duane Bibby



Contents

Pı	efac	Э		$\mathbf{x}\mathbf{v}$
1	Get	ting A	cquainted	1
	1.1	_	o Avoid Reading This Book	2
	1.2		o Read This Book	3
	1.3		ame of the Name	5
	1.4		ng Typing into Typography	5
	1.5		ATEX?	7
	1.6		ng Ideas into Input	8
	1.7		g It Out	8
	1.1	11 y 111 g		Ū
2	Get	ting S	tarted	11
	2.1	Prepa	ring an Input File	12
	2.2	The In	nput	13
		2.2.1	Sentences and Paragraphs	13
			Quotation Marks	13
			Dashes	14
			Space After a Period	14
			Special Symbols	15
			Simple Text-Generating Commands	15
			Emphasizing Text	16
			Preventing Line Breaks	17
			Footnotes	17
			Formulas	18
			Ignorable Input	19
		2.2.2	The Document	19
			The Document Class	19
			The Title "Page"	20
		2.2.3	Sectioning	21
		2.2.3	Displayed Material	23
		₩.H.I	Quotations	24
			Lists	24

			Poetry
			Displayed Formulas
		2.2.5	Declarations
	2.3	Runnin	g IATEX 28
	2.4	Helpful	Hints
	2.5	Summa	ry
3	Car	rying C	
	3.1	_	ng the Type Style
	3.2	•	s from Other Languages
			Accents
			Symbols
	3.3		natical Formulas
		3.3.1	Some Common Structures
			Subscripts and Superscripts
			Fractions
			Roots
			Ellipsis
		3.3.2	Mathematical Symbols
			Greek Letters
			Calligraphic Letters
			A Menagerie of Mathematical Symbols 42
			Log-like Functions
		3.3.3	Arrays
			The array Environment 45
			Vertical Alignment
			More Complex Arrays
		3.3.4	Delimiters
		3.3.5	Multiline Formulas
		3.3.6	Putting One Thing Above Another 49
			Over- and Underlining
			Accents
			Stacking Symbols
		3.3.7	Spacing in Math Mode
		3.3.8	Changing Style in Math Mode 51
			Type Style
			Math Style
		3.3.9	When All Else Fails
	3.4	Defini	ng Commands and Environments
		3.4.1	Defining Commands
		3.4.2	Defining Environments
		3.4.3	Theorems and Such
	3.5	Figure	s and Other Floating Bodies

		3.5.1	Figures and Tables	8				
		3.5.2	Marginal Notes	9				
	3.6	Lining	It Up in Columns 6	0				
		3.6.1	The tabbing Environment 6	0				
		3.6.2	The tabular Environment 6	2				
	3.7	Simula	ting Typed Text	3				
4	Mo	ving In	formation Around 69	5				
	4.1	The Ta	able of Contents	6				
	4.2	Cross-	References	7				
	4.3	Bibliog	graphy and Citation	9				
		4.3.1	Using BibT _E X	0				
		4.3.2	Doing It Yourself	1				
	4.4	Splittin	ng Your Input	2				
	4.5	Makin	g an Index or Glossary	4				
		4.5.1	Compiling the Entries	4				
		4.5.2	Producing an Index or Glossary by Yourself	5				
	4.6	Keybo	ard Input and Screen Output	б				
	4.7		g Your Document	7				
5	Oth	er Doo	cument Classes 79	9				
	5.1	Books		0				
	5.2	Slides		0				
		5.2.1	Slides and Overlays	1				
		5.2.2	Notes	3				
		5.2.3	Printing Only Some Slides and Notes 8	3				
		5.2.4	Other Text	4				
	5.3	Letters	s	4				
6	Designing It Yourself 87							
	6.1		nent and Page Styles	8				
		6.1.1	Document-Class Options	8				
		6.1.2	Page Styles	9				
		6.1.3	The Title Page and Abstract 9	0				
		6.1.4	Customizing the Style	1				
	6.2	Line a	nd Page Breaking	3				
		6.2.1	Line Breaking	3				
		6.2.2	Page Breaking	6				
	6.3	Numb	ering	7				
	6.4	Lengtl	n, Spaces, and Boxes	9				
		6.4.1	Length	9				
		6.4.2	Spaces					
		6.4.3	Boxes	3				
			LR Boyes 10	4				

			Parboxes	Ĺ
			Rule Boxes	3
			Raising and Lowering Boxes	7
			Saving Boxes	7
		6.4.4	Formatting with Boxes	3
	6.5		ing and "Flushing"	L
	6.6		aking Environments	2
	0.0		The list Environment	2
			The trivlist Environment	5
	6.7			5
	0	6.7.1	Changing Type Size	5
		6.7.2	Special Symbols	
		01112		
7	Pict	ures a	nd Colors 117	7
	7.1	Picture	es	3
		7.1.1	The picture Environment	9
		7.1.2	Picture Objects	C
			Text	C
			Boxes	C
			Straight Lines	2
			Arrows	3
			Stacks	3
			Circles	4
			Ovals and Rounded Corners	4
			Framing	5
		7.1.3	Curves	5
		7.1.4	Grids	6
		7.1.5	Reusing Objects	7
		7.1.6	Repeated Patterns	7
		7.1.7	Some Hints on Drawing Pictures	8
	7.2	The gr	raphics Package	9
	7.3	Color .		1
_	-			_
8	Err		13	
	8.1		ng the Error	
	8.2		's Error Messages	
	8.3	TEX'S	Error Messages	
	8.4		Warnings	
	8.5	TEX A	Varnings	.7
٨	TTe	ng Mal	keIndex 14	a
н		_	to Use $MakeIndex$	
			to Generate Index Entries	
	17.4		When, Why, What, and How to Index	

		A.2.2	The Basics
		A.2.3	The Fine Print
	A.3	Error 1	Messages
В	The		ography Database 155
	B.1	The Fo	ormat of the bib File
		B.1.1	The Entry Format
		B.1.2	The Text of a Field
			Names
			Titles
		B.1.3	Abbreviations
		B.1.4	Cross-References
	B.2	The E	ntries
		B.2.1	Entry Types
		B.2.2	Fields
\mathbf{C}	Refe	erence	Manual 165
	C.1	Comm	ands and Environments
		C.1.1	Command Names and Arguments 166
		C.1.2	Environments
		C.1.3	Fragile Commands
		C.1.4	Declarations
		C.1.5	Invisible Commands and Environments 169
		C.1.6	The \\ Command
	C.2		tructure of the Document
	C.3	Senten	ices and Paragraphs
		C.3.1	Making Sentences
		C.3.2	Making Paragraphs
		C.3.3	Footnotes
		C.3.4	Accents and Special Symbols
	C.4	Section	ning and Table of Contents
		C.4.1	Sectioning Commands
		C.4.2	The Appendix
		C.4.3	Table of Contents
		C.4.4	Style Parameters
	C.5		s, Packages, and Page Styles
		C.5.1	Document Class
		C.5.2	Packages
		C.5.3	Page Styles
		C.5.4	The Title Page and Abstract
	C.6		yed Paragraphs
	0	C.6.1	Quotations and Verse
		C.6.2	List-Making Environments