

CONQUER YOUR FEAR OF CODING WITH PRAAT SCRIPTING

[illegible]

BY CHARALAMPOS KARYPIDIS

Table of contents

About the author

Acknowledgments 5

0 Introduction 6

0.1 What is programming? 7
0.2 Why use Praat? 7
0.3 Who should read this book 8
0.4 About this book 9
0.5 Conventions 10
0.6 Art 10
0.7 Help 11
0.8 License 11
0.9 Feedback 11
0.10 Releases 11

1 Installing Praat 12

1.1 The main interface 12
1.2 Scripts: what's all the fuss about? 13
1.3 Help 15
1.4 Summary 16
1.5 Challenges 16

2 Printing info on the screen 17

2.1 Hello world! 17
2.2 Naming conventions and the camel case 18
2.3 Break lines 18
2.4 Summary 19
2.5 Challenges 19

3 Variables 20

3.1 Numeric variables 20
3.2 String variables 21
3.3 Summary 22
3.4 Challenges 22

4 The for loop 23

4.1 What is a loop? 23
4.2 Multiplication tables 25
4.3 Reverse loops with while 27
4.4 Summary 27
4.5 Challenges 28

5 The if condition 29

5.1 Peter, you lazy dog! 29
5.2 Summary 31
5.3 Challenges 31

6	Working with files	33
6.1	Reading files	33
6.1.1	Audio files	33
6.1.2	Text files	34
6.2	Quering tables	34
6.3	Modifying tables	35
6.4	Summary	35
6.5	Challenges	35
7	Object selection	36
7.1	Selecting objects	36
7.2	O Folder, Folder, wherefore art thou Folder?	37
7.3	Sound concatenation and history revision	38
7.4	Cleaning up	42
7.5	Practical applications	43
7.6	Summary	43
7.7	Challenges	43
	Crossword puzzle 1: chapters 1-7	44
8	Miles vs. kilometres and user feedback	45
8.1	Dialogue windows	45
8.2	Give me options or give me death	46
8.3	Building a unique converter	47
8.4	Summary	49
8.5	Challenges	49
9	Procedures	50
9.1	String variables in dialogue windows	50
9.2	Procedures to the rescue	54
9.3	Are we there yet?	57
9.4	Summary	59
9.5	Challenges	60
10	Conjugating verbs	61
10.1	French verbs and all their glory	61
10.2	Alternatives - Improvements	72
10.3	Summary	73
10.4	Challenges	73
11	Working with TextGrids	74
11.1	Creating TextGrids	74
11.2	Phase 2: annotating vowels	79
11.3	Cleaning up	84
11.4	Summary	86
11.5	Challenges	86
12	Creating subtitles	87
12.1	Raising the bar in rock climbing	87
12.2	Summary	96
12.3	Challenges	96

13 String-function jamboree: converting climbing grades	97
13.1 Working with external files	97
13.2 Avoiding external files	103
13.3 Cleaning up	110
13.4 Summary	113
13.5 Challenges	113
14 Lies, damned lies and statistics	114
14.1 The paired samples t-test and simple calculations	114
14.2 Pearson's correlation: rolling in the deep	116
14.3 Adding buttons to menus	118
14.4 Procedures CAN return values!	120
14.5 Cleaning up	121
14.6 Summary	122
14.7 Challenges	122
Crossword puzzle 2: chapters 8-14	124
15 Making mucho dinero with regular expressions	125
15.1 Regular what?	125
15.1.1 Special characters	125
15.1.2 Quantifiers	126
15.1.3 Validating strings against patterns	126
15.2 Combining Praat with LibreOffice	130
15.2.1 Doing the ground work	130
15.3 Calling an external program using a .bat file	132
15.4 Pausing the script	135
15.5 Summary	137
15.6 Challenges	137
16 Pushing regular expressions to the extreme	140
16.1 Formatting tags	143
16.2 Links	151
16.3 Structural tags	154
16.4 The issue with doublequotes	159
16.5 Summary	160
16.6 Challenges	160
17 Getting feedback from the user	162
17.1 Providing feedback during the workflow	162
17.2 Buttons have value	166
17.3 Summary	167
17.4 Challenges	167
18 A piano masterclass	168
18.1 The Praat Picture Window	168
18.2 The almighty demo window	169
18.3 Sing us a song, you're the piano man	178
18.4 Summary	188
18.5 Challenges	188
19 A slice of apple pi	190
19.1 The modules of our revolutionary educational tool	190
19.1.1 Lernen macht Spass	190
19.2 Summary	203
19.3 Challenges	203

20 The pursuit of happyness	204
20.1 Vroum vroum	204
20.2 The joy of vectors	205
20.3 Research and mental health	213
20.4 Summary	218
20.5 Challenges	219
21 Find the difference!	221
21.1 Using matrices and no external database	230
21.2 Combining vectors with a external database	234
21.3 Summary	238
21.4 Challenges	238
Crossword puzzle 3: chapters 15-21	239
22 Paint with all the colours of the wind	240
23 Converting climbing grades with vectors	245
Crossword puzzle 4: Praat functions	256
Crossword puzzle 5: Hardcore Praat	257
Now what?	258
Praat-related resources for future enlightenment	259
23.1 Scripting tutorials	259
23.2 Collection of Praat scripts	259
Crossword puzzle solutions	260
23.3 Crossword puzzle 1	260
23.4 Crossword puzzle 2	261
23.5 Crossword puzzle 3	262
23.6 Crossword puzzle 4	263
23.7 Crossword puzzle 5	264
Resources used for this book	265
List of Figures	266
List of Tables	267
Index	269