

## Table of Contents

A ★, here and in the text, indicates a special topic. As indicated by the double star, section 18 involves a more complicated situation.

- Section 01: A sample Octave session
- Section 02: Common functions
- Section 03: Defining your own functions
- Section 04: Vectors – basic concepts
- Section 05: Functions of vectors; data analysis; statistics, part 1
- Section 06: Vectors of indices; products of elements
- Section 06A: Pick a number, part 1 ★
- Section 07: Graphing
- Section 08: Finding the roots of a polynomial and the zeros of a function
- Section 09: Working with vector logic
- Section 10: Matrices; statistics, part 2
- Section 11: Simultaneous equations
- Section 12: Programs; for-loops
- Section 13: More on for-loops
- Section 14: Conditional statements; input from the keyboard
- Section 15: While-loops; alphanumeric texts
- Section 15A: Pick a number, part 2 ★
- Section 16: Binomial coefficients and probabilities ★
- Section 17: Tossing coins on a computer, part 1 ★
- Section 18: Tossing coins on a computer, part 2 ★★
- Section 19: Statistics, part 3; bar graphs

## Typographical notes

This book was set in pure T<sub>E</sub>X.

The main part of the text is set in “ptmr8t at 12.5pt” (Times with the 256 character Cork encoding). Bold and italics were “ptmb8t at 12.5pt” and “ptmri8t at 12.5pt” respectively.

Programs and Octave output are set in “cmtt10 at 12.5pt” (Computer Modern typewriter, i.e. equally spaced, type).

Graphs were saved in \*.eps (“encapsulated postscript”) format and imported using T<sub>E</sub>X and PSTricks commands of the form:

```
\centerline{\epsfxsize = 11.0 truecm\epsfbox{birthday_connected.eps}}
```

The diagram in section 17 was drawn using the T<sub>E</sub>X and PSTricks commands:

```
\hskip 2.7truecm
```

```
\psline[linewidth = 5pt](0, 0)(4, 0)
```

```
\psline[linewidth = 2pt](4, 0)(10, 0)
```

Special spacing and font macros were written by the author and imported into the T<sub>E</sub>X files.