

# Raspberry Pi Assembly Language – Raspbian Beginners

**Mike Saunders** don't need no silly high level languages, fool.

Given how much people love poking around with the Raspberry Pi hardware, it's surprising that there aren't more books on low-level programming for the dinky device. Indeed, books on assembly language for any platform are hard to come by. This 260 page tome is available as both a paperback and a Kindle edition, the latter of which can be read via a web browser at <http://read.amazon.com>.

*Raspberry Pi Assembly Language...* introduces ARM assembly language pretty well, although it dives straight into the details fairly quickly: you learn about binary arithmetic before you've even printed a line of text on the screen. We tend to prefer a more hands-on approach where you learn things by doing, and not just reading. Still, the chapters are well written and dense, and cover using libc, disassembling C programs, and working with the GPIO pins.

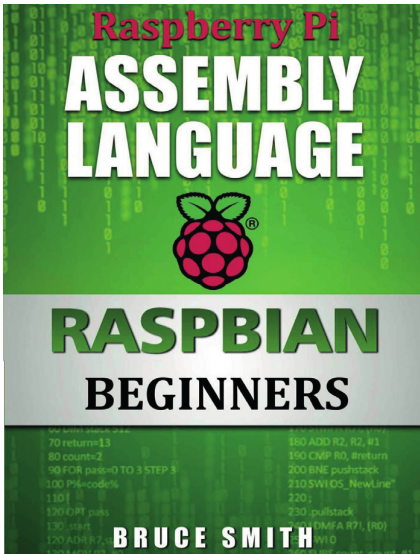
The code samples are well commented, and there are appendices for the ASCII character set and Linux kernel system calls. In all it's a solid read, tackling a notoriously difficult subject with confidence and making the reader feel like he/she is making good progress through each chapter. We'd just like to see more practical code samples, especially early on when tricky concepts are being introduced.

**LINUX VOICE VERDICT**

**Author** Bruce Smith  
**Publisher** BSB  
**ISBN** 978-1492135289  
**Price** £14.99 (print), £5.97 (Kindle)

Great value, and thorny topics are explained well. Could do with more code snippets though.

★★★★★



Mike's head explodes with potential when there's more than 640k of base memory.

# Understanding Computation

**Graham Morrison** found this book ideal for understanding his own code.

This book isn't ideal for morning reading before you've had a coffee or two. Nor is it perfect for a mid-afternoon browse, when your lunch is having maximum effect on your glucose levels. It's a book to be read while you're wide awake and engaged, because it doesn't hold back.

Within the first 20 pages, you're dealing with the semantics of expressions and trying to get your head around the Ruby code used to illustrate most of the ideas, and that's after you've read a page about the meaning of 'meaning'.

**Automata for the people**

Despite this being a book aimed at programmers "with little or no formal training in computer science," the last time we read a book like this was while studying computer science. This isn't a cookbook of programming recipes. It's a comprehensive overview of the theories behind computing

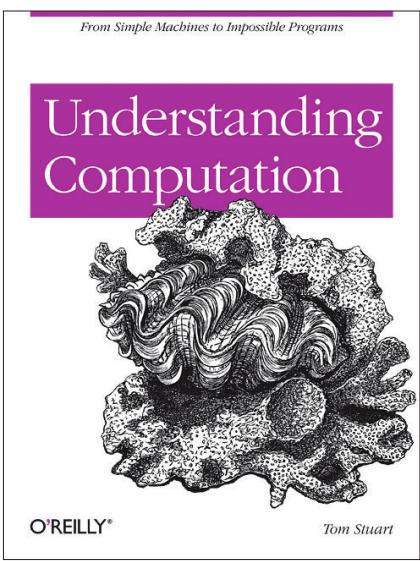
and computers, by example. It really does make you think about how you approach your own projects – what statements and expressions are really doing. There's a lot about finite states and Turing machines, at one point building compute units out of Conway's Game of Life. But this is all theory. There's nothing you'll immediately be able to take away and use, and if you want to apply what you've learnt to your own projects, you'll find their foundations broken, forcing yourself to start from scratch.

**LINUX VOICE VERDICT**

**Author** Tom Stuart  
**Publisher** O'Reilly  
**ISBN** 978-1-449-32927-3  
**Price** £26.99

An intense and complex book about the theory many of us take completely for granted.

★★★★★



Almost five pages consist entirely of the characters -, >, {, [ x, y, l, m n, o, p, ], and }. If that sounds like fun, you'll love this book.

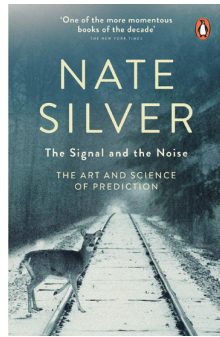
# The signal and the noise

**Ben Everard** never trusted the TV weatherman. Now he knows why.

**N**ate Silver earned his reputation as a forecaster by correctly predicting the results of the 2012 US presidential election for every state in the US. In this book, he looks at how people make predictions and forecasts. It's a guide to help regular people understand the perils and pitfalls of trusting the forecasters.

The reader learns why some TV weather forecasts are less accurate than the raw forecast data the TV stations base their forecasts on, and how to tell if an economic forecast is accurate.

In an age where everyone seems to be trying to collect big data, and analyses it for traits about us, the world and everything else, understanding the difference between signal and noise, and how they affect our ability to correctly understand the world (and therefore predict what will happen), is now more important than ever. This book is important because it coolly looks at a number of areas where data is used



Get it, read it, then laugh at the certainty of so-called experts in the news.

to predict the future, and investigates whether those forecasts have been successful, and why.

### LINUX VOICE VERDICT

**Author** Nate Silver  
**Publisher** Penguin  
**ISBN** 978-0-141-97565-8  
**Price** £8.99

Essential reading for anyone who has ever wondered about why we trust experts.



# The Snowden Files

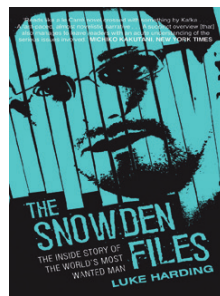
**Ben Everard** wonders if James Garner will star in the TV series.

**F**ew people actually know that much about him. When he appeared in the news most frequently, he had risen to fame so quickly that reporters struggled to find details of who he was or what he did. At the same time, information about his whereabouts and travels was often kept guarded.

Luke Harding obviously has access to some of the people involved in the reporting of the case, and *The Snowden Files* details exactly what happened as Edward Snowden went from high-school dropout to NSA contractor to the biggest whistleblower in history to man-on-the-run.

It is, perhaps, a bit mis-named because the main focus of the book is not the files he acquired from the NSA, but the man himself.

The book paints a picture of Snowden that's broadly in line with how Snowden has been portrayed in most unbiased media, so don't expect to find any shocking details, but the story is well



Edward Snowden still faces a life of uncertainty.

written and engaging. In many places it reads like a spy story, which in a slightly unusual way, it is.

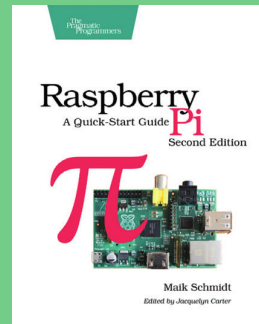
### LINUX VOICE VERDICT

**Author** Luke Harding  
**Publisher** Faber & Faber  
**ISBN** 978-1-78335-035-3  
**Price** £12.99

We found the book mesmerising, and we're sure most people interested in the events will do too.

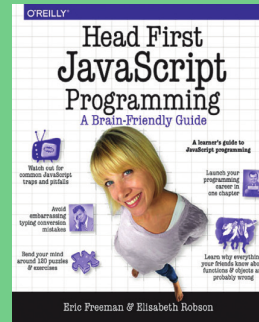


## ALSO RELEASED...



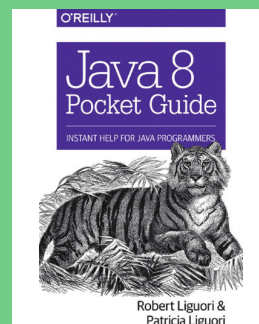
Other books about using the Raspberry Pi are also available.

**Raspberry Pi – A Quick Start Guide**  
 This is the second edition, and as things have changed so much, and the Pi has become so successful, we'd imagine there are plenty of new things to write about. This is still a book aimed at the complete beginner, however, so we'll let you know whether it succeeds.



The only things we've ever disliked about this series are the big heads on the cover.

**Head First JavaScript Programming**  
 There have been a few misses, but mostly, O'Reilly's Head First books are brilliant. They make technical subjects fun and immediate in a visual web 2.0 way that may be getting a little tiresome, but not quite yet. JavaScript is the perfect subject matter for this style too.



Java – who'd have thought it would still be kicking around ?

**Java 8 Pocket Guide**  
 If our Android coding tutorial has got you wondering about Java again, then this small reference book contains quick access to details like naming conventions, types, statement and blocks. It's perfect if you've used Java in the past, or use another OOP language and need a quick reference.