

## 18.6: Summary

In this chapter I talked about several key programming concepts, things that you should know about if you want to start converting your simple scripts into full fledged programs:

- Writing and using scripts (Section 8.1).
- Using loops (Section 8.2) and implicit loops (Section 8.5).
- Making conditional statements (Section 8.3)
- Writing your own functions (Section 8.4)

As always, there are *lots* of things I'm ignoring in this chapter. It takes a lot of work to become a proper programmer, just as it takes a lot of work to be a proper psychologist or a proper statistician, and this book is certainly not going to provide you with all the tools you need to make that step. However, you'd be amazed at how much you can achieve using only the tools that I've covered up to this point. Loops, conditionals and functions are very powerful things, especially when combined with the various tools discussed in Chapters 3, 4 and 7. Believe it or not, you're off to a pretty good start just by having made it to this point. If you want to keep going, there are (as always!) several other books you might want to look at. One that I've read and enjoyed is "A first course in statistical programming with R" Braun and Murdoch (2007), but quite a few people have suggested to me that "The art of programming with R" Matloff and Matloff (2011) is worth the effort too.

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### References

Braun, John, and Duncan J Murdoch. 2007. *A First Course in Statistical Programming with R*. Cambridge University Press Cambridge.

Matloff, Norman, and Norman S Matloff. 2011. *The Art of R Programming: A Tour of Statistical Software Design*. No Starch Press.

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133. The quote comes from *Count Zero* (1986)

134. Okay, I lied. Sue me. One of the coolest features of Rstudio is the support for *R Markdown*, which lets you embed R code inside a Markdown document, and you can automatically publish your R Markdown to the web on Rstudio's servers. If you're the kind of nerd interested in this sort of thing, it's really nice. And, yes, since I'm also that kind of nerd, of course I'm aware that iPython notebooks do the same thing and that R just nicked their idea. So what? It's still cool. And anyway, this book isn't called *Learning Statistics with Python* now, is it? Hm. Maybe I should write a Python version...

135. As an aside: if there's only a single command that you want to include inside your loop, then you don't actually need to bother including the curly braces at all. However, until you're comfortable programming in R I'd advise *always* using them, even when you don't have to.

136. Okay, fine. This example is still a bit ridiculous, in three respects. Firstly, the bank absolutely will not let the couple pay less than the amount required to terminate the loan in 30 years. Secondly, a constant interest rate of 30 years is hilarious. Thirdly, you can solve this much more efficiently than through brute force simulation. However, we're not exactly in the business of being realistic or efficient here.

137. Lexical scope.

138. The `assign()` function.

139. Yes.

140. Or a list of such variables.

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