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3.2: Functions

One of the most basic notions of structured programming is that you should divide your code into separate functions, each of manageable size. Very long functions were all the rage in the days of FORTRAN, when it was not uncommon to see a 10,000-line program consisting of one or two functions only. There are a number of reasons why this is a Bad Thing, and thus why creating separate functions is a Good Thing.

First of all, breaking your code into functions makes it easier to understand, especially if each function does only one well-defined thing. One screenful of code is about all a normal human can easily digest at once, so this is a pretty good guideline as to the upper size limit of a function.

Second of all, breaking your code into well-defined, parameterized functions often lets you see hidden redundancy in your code. You can reduce the size of your code by putting similar code into a single function that is called from many places in your program.

Third, separating your code into distinct functions makes it easy for you to change the algorithms your code uses. If sorting is always done by a generic sort( ) function, then if you improve the sort( ) function, many parts of your program will benefit without your even touching them.