

12

PROGRAMMING TOOLS

IN THIS CHAPTER

Programming in C	478
Using Shared Libraries	486
make: Keeps a Set of Programs Current	489
Debugging C Programs	496
Threads	506
System Calls	506
CVS: Concurrent Versions System	510

With its rich set of languages and development tools, the Mac OS X operating system provides an outstanding environment for programming. C is one of the most popular system programming languages to use in conjunction with OS X, in part because the operating system itself is written mostly in C. Using C, programmers can easily access system services using function libraries and system calls. In addition, a variety of helpful tools can facilitate the development and maintenance of programs.

This chapter explains how to compile and link C programs. It introduces the GNU `gdb` debugger and tools that provide feedback about memory, disk, and CPU resources. It also covers some of the most useful software development tools: the `make` utility and CVS (Concurrent Versions System). The `make` utility helps you keep track of which program modules have been updated and helps to ensure that you use the latest versions of all program modules when you compile a program. CVS is a source code management system that tracks the versions of files involved in a project.