

# UNIX Programmer's Supplementary Documents (PSD)

## 4.4 Berkeley Software Distribution

June, 1993

This volume contains documents which supplement the manual pages in *The UNIX<sup>†</sup> Programmer's Reference Manual* for the 4.4BSD system as distributed by U.C. Berkeley.

### Documents of Historical Interest

The Unix Time-Sharing System PSD:1

Dennis Ritchie and Ken Thompson's original paper about UNIX, reprinted from *Communications of the ACM*.

Unix Implementation PSD:2

Ken Thompson's description of the implementation of the Version 7 kernel and file system.

The Unix I/O System PSD:3

Dennis Ritchie's overview of the I/O System of Version 7; still helpful for those writing device drivers.

Unix Programming – Second Edition PSD:4

Describes the programming interface to the UNIX version 7 operating system and the standard I/O library. Should be supplemented by Kernighan and Pike, "The UNIX Programming Environment", Prentice-Hall, 1984 and especially by the Programmer Reference Manual section 2 (system calls) and 3 (library routines).

Berkeley Software Architecture Manual (4.4 Edition) PSD:5

A concise and terse description of the system call interface provided in Berkeley Unix, as revised for 4.4BSD. This will never be a best seller.

### Languages in common use

The C Programming Language – Reference Manual PSD:6

Official statement of the syntax of C. Should be supplemented by "The C Programming Language," B.W. Kernighan and D.M. Ritchie, Prentice-Hall, 1978, that contains a tutorial introduction and many examples.

Berkeley Pascal User's Manual PSD:7

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## PSD Contents

An implementation of this language popular for learning to program.

A Portable Fortran 77 Compiler PSD:8

A revised version of the document which originally appeared in Volume 2b of the Bell Labs documentation; this version reflects the work done at Berkeley.

Introduction to the f77 I/O Library PSD:9

A description of the revised input/output library for Fortran 77, reflecting work carried out at Berkeley.

### Programming Tools

Debugging with GDB: The GNU Source-Level Debugger PSD:10

How to debug programs using the source level *gdb* debugger (or how to debug programs without having to know much about machine language).

A Tutorial Introduction to ADB PSD:11

How to debug programs using the assembly-language level *adb* debugger.

Make – A Program for Maintaining Computer Programs PSD:12

Indispensable tool for making sure large programs are properly compiled with minimal effort.

An Introduction to the Revision Control System PSD:13

RCS is a user-contributed tool for working together with other people without stepping on each other's toes. An alternative to *sccs* for controlling software changes.

An Introduction to the Source Code Control System PSD:14

A useful introductory article for those users with installations licensed for SCCS.

YACC: Yet Another Compiler-Compiler PSD:15

Converts a BNF specification of a language and semantic actions written in C into a compiler for that language.

LEX – A Lexical Analyzer Generator PSD:16

Creates a recognizer for a set of regular expressions: each regular expression can be followed by arbitrary C code to be executed upon finding the regular expression.

The M4 Macro Processor PSD:17

M4 is a macro processor useful in its own right and as a front-end for C, Ratfor, and Cobol.

gprof: a Call Graph Execution Profiler PSD:18

A program to show the call graph and execution time of a program. Indispensable aid for improving the running time of almost everything.

**Programming Libraries**

Screen Updating and Cursor Movement Optimization PSD:19

Describes the *curses* package, an aid for writing screen-oriented, terminal-independent programs.

**General Reference**

An Introductory 4.4BSD Interprocess Communication Tutorial PSD:20

How to write programs that use the Interprocess Communication Facilities of 4.4BSD.

An Advanced 4.4BSD Interprocess Communication Tutorial PSD:21

The reference document (with some examples) for the Interprocess Communication Facilities of 4.4BSD.