
Appendices

A Running Berkeley Logo

One of my reasons for writing a second edition of these books was that all of the Logo interpreters described in the first edition are now obsolete. Current commercial Logo implementations are quite different in their user interface from those traditional versions. Those differences make newer Logo implementations more immediately accessible to children who want to produce animated graphics, but in many cases the changes have made the kind of programming I do in these books harder.

My solution has been to produce, along with some of my students, a Logo interpreter that is available free of charge for most popular computers. The design goal of Berkeley Logo has been that a program written for one kind of computer should run entirely unchanged on any other kind. Still, there are slight differences in the user interface and in the installation process, and this appendix discusses those differences. Since Berkeley Logo is distributed with source files, I hope that as new computers and operating systems come along, some enthusiast will make Berkeley Logo available for them even if I don't catch them all.

Still, people who are using some other version of Logo for other purposes might well want to use these books to help them learn more advanced Logo ideas. The programs in this first volume can be adapted to current commercial Logo dialects with some effort. In the later volumes I rely more heavily on features that are available only in Berkeley Logo.

Getting Berkeley Logo

Berkeley Logo is available over the Internet, or on diskette from the MIT Press. On the Internet, make an anonymous FTP connection to `anarres.cs.berkeley.edu` and look in the directory `pub/ucblogo`. The relevant files are

<code>blog.exe</code>	Self-extracting archive for DOS machines.
-----------------------	---

`ucblogo.sea.hqx` BinHex self-extracting archive for Macintosh.
`ucblogo.tar.Z` Compressed `tar` archive for Unix.

The files should be transferred in binary (image) mode.

Pointers to these files can also be found on my Web page:

<http://www.cs.berkeley.edu/~bh/>

For a diskette, use the order form enclosed with this book.

Within the Logo distribution is a subdirectory (or folder, if you're a Mac person) called `sources`. This contains the C language source files for the Logo interpreter. If disk space is tight, you don't need these files to run Logo; they are provided for people who want to extend the Logo interpreter or implement it for a different computer system.

Berkeley Logo for DOS Machines

If you got Berkeley Logo on diskette, to extract the files you put the diskette in your A or B drive and give the command `a:install` or `b:install`. This will create a directory named `ucblogo` on your C drive. If you got the file `blogo.exe` from the Internet, type the command

```
blogo -d c:\
```

to expand the archive. Don't forget the `-d`.

Berkeley Logo is provided in two executable versions:

`ucblogo.exe` runs on 286-and-up processors, and uses extended memory if you have it, so you can run large Logo programs.

`bl.exe` runs on any PC, but is limited to 640K. That's not big enough for some of the larger projects in the later volumes.

In order to run `ucblogo.exe` you must have the file `zpm.exe` (which is provided) in your DOS path. `zpm` has to figure out what kind of extended memory interface you have, and in some cases it needs help. You must use the DOS command

```
set DOS16M=1        for NEC 98-series  
set DOS16M=5        for Fujitsu FMR-60 or 70  
set DOS16M=6        for ATT 6300 Plus
```

```
set DOS16M=7      for old Phoenix BIOS versions
set DOS16M=13     for Zenith Z-24X with old BIOS
set DOS16M=INBOARD for 386 with Intel Inboard
```

Even if UCBLOGO runs correctly for you without any of these settings (which will be the case for most machines) you might try

```
set DOS16M=10     for faster performance on some systems
                  but slower on others – experiment.
```

Ucblogo and bl also usually figure out correctly what kind of graphics board you have. But for some obscure clones with nonstandard graphics you might have to tell it which graphics mode to use. This is also done with a DOS command:

```
set FG_DISPLAY=xxxx
```

where *xxxx* is the board type and mode, one of the following:

```
CGAHIRES, CGAMEDRES, EGACOLOR, EGAECD, EGAMONO, EGALOWRES,
HERC, ORCHIDPROHIRE, PARADISEHIRES, TOSHIBA, TRIDENTHIRES,
VEGA VGAHIRES, VESA6A, VESA2, VGA11, VGA12, VGA13, 8514A
```

I don't know anything about any of these except that TOSHIBA is for a T3100 and doesn't work on my T1200XE. I use VGA12 on my generic clone.

There are some graphics modes that will work with bl but not with ucblogo, including VESA1 for 256 colors of 640x480.

Finally, note that Logo writes directly to the screen and is therefore incompatible with "screen accelerator" TSRs. (For example, my PC comes with one called *pckscrn* and I had to turn it off before running Logo.) The file *ucl.bat* is a sample batch file that I use to disable the screen accelerator, run Logo, then re-enable it. If you have a different screen accelerator you'll need different commands, of course, but the idea is the same.

Ctrl-break or ctrl-Q means stop, ctrl-W means pause.

The Logo *edit* command runs a separate editor, starting that editor with a file containing your selected procedures. Logo will use whatever editor you want, if there is an EDITOR variable in your DOS environment. By default, Logo uses Jove, a version of EMACS, which is provided with Logo. This version of Jove is set up so that typing ctrl-C will save the file and return to Logo. You need to put

```
SET JOVERC=C:\UCBLOGO\JOVE\JOVE.RC
SET DESCRIBE=C:\UCBLOGO\JOVE\CMDSDOC
```

in your `autoexec.bat` or something so that Jove will start up right. `Cmdsdoc` is the Jove reference manual, used for its online help.

You also need

```
SET LOGOLIB=C:\UCBLOGO\LOGOLIB\
```

(yes, ending with backslash) in your `autoexec.bat` so that Logo can find its library files.

The `bl.exe` version of Logo can be run in a DOS window under Windows, but it can do graphics only in full-screen mode. For the larger projects, exit Windows and run `ublogo.exe` under DOS. (In Windows 95, this can be made automatic if you install `ublogo` as a “DOS mode” program.) There is an offshoot of Berkeley Logo called MSWLogo, written by George Mills, specifically for Windows. It has a more point-and-click style interface, and doesn’t work well with those projects that make heavy use of reading from the keyboard or controlling the position of text on the screen; the Solitaire and Cryptographer’s Helper projects in Volume 2 and the finite state machine simulator in Volume 3 are most problematic. But for general use, MSWLogo is a good option for Windows users. The easiest way to get it is from George Mills’ Web page:

```
hp: //www.itranet.com/~mills
```

Berkeley Logo for the Macintosh

If you got Berkeley Logo on diskette, insert the diskette in your drive, copy the one file onto your hard disk, and then double-click on it to install the **UCB Logo** folder. If you got Logo from the Internet, you must first convert the BinHex format to an executable file; many file transfer programs do this automatically.

Command-period means stop; command-comma means pause.

On the Mac, Berkeley Logo includes a very simple-minded editor built into Logo itself. It works in the usual Macintosh way; when you have finished editing, you can select “accept editor changes” or “cancel editor changes” from the **Edit** menu.

Macintosh users will find the Berkeley Logo user interface disconcerting, because it was designed to be Logo-like rather than Macintosh-like. For example, you should use the Logo commands `pliscreen`, `fulscreen`, and `screen` to rearrange Logo’s text and graphics windows, rather than trying to resize them with the mouse.

Berkeley Logo for Unix

Since there are so many different versions of Unix, Berkeley Logo is distributed in source form, and must be compiled for your particular machine. A Gnu Autoconf configuration file is provided, so the compilation process should be reasonably automatic. The X11 library is required for turtle graphics.

Logo uses your system's interrupt character for stop, and your system's quit character for pause.

For the `edit` command, Logo uses whatever program is specified in your `EDITOR` environment variable. If your editor exits with nonzero status (indicating an error) then Logo will not carry out the changes indicated in the edited file.

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```
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Copyright (C) 19yy name of author
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```

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```
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```

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This index lists example procedures whose definitions are in the text and procedures that you are asked to write in the text. The general index lists technical terms and primitive procedures.

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