

CHAPTER 2, LAB 1: GETTING STARTED WITH bash

(15 MINUTES)

LEARNING OBJECTIVES AND OUTCOMES

In this lab you will determine which shell you are running and correct mistakes on the command line. You will also learn about help the system provides in the form of man pages, the `--help` option, and the `bash help` command.

READING

Read Sobell, Chapter 2.

PROCEDURE

This lab manual uses the same conventions as the Sobell book. Before getting started, read “Conventions Used in This Book” (Sobell, pages 24–26) to become familiar with the conventions used in this lab manual.

Use the script utility (Sobell, page 62) to capture your work as you go through the steps of this lab. You will end up with a file that shows the work you have done. You can submit this file to your instructor or simply keep it for your notes.

1. Give the following command to cause the shell you are running to display its name (Sobell, page 29):

```
$ echo $0
```

If you are running `bash`, the shell displays

```
$ echo $0
-bash
```

or

```
$ echo $0
/bin/bash
```

2. Type some words on a command line without pressing RETURN. Now delete a character, a word, and the entire line as explained starting on Sobell, page 29.

The default erase key is `BACKSPACE`, the default key for deleting a word is `CONTROL-W`, and the default line kill key is `CONTROL-U` or `CONTROL-X`. See “Erasing a Character” on Sobell, page 29, for instructions on resetting these values.

3. You can use `man` (Linux manual) pages to learn about Linux utilities and other aspects of a Linux system (Sobell, page 33). Read the man page on the `man` utility to find out more about this utility.

Give the following command to display the man page covering the man utility:

```
$ man man
```

Press the SPACE bar to display the next screen of information and press q to quit using man.

4. Many utilities accept the **--help** option (Sobell, page 38). When called with this option, one of these utilities displays information about itself. Call the cat utility with the **--help** option.

```
$ cat --help
```

```
Usage: cat [OPTION]... [FILE]...
```

```
Concatenate FILE(s), or standard input, to standard output.
```

```
-A, --show-all          equivalent to -vET
-b, --number-nonblank    number nonempty output lines
-e                      equivalent to -vE
-E, --show-ends         display $ at end of each line
-n, --number            number all output lines
-s, --squeeze-blank     suppress repeated empty output lines
-t                      equivalent to -vT
-T, --show-tabs         display TAB characters as ^I
-u                      (ignored)
-v, --show-nonprinting  use ^ and M- notation, except for LFD and TAB
--help                 display this help and exit
--version              output version information and exit
```

```
With no FILE, or when FILE is -, read standard input.
```

```
Examples:
```

```
cat f - g  Output f's contents, then standard input, then g's contents.
cat       Copy standard input to standard output.
```

```
Report cat bugs to bug-coreutils@gnu.org
```

```
GNU coreutils home page: <http://www.gnu.org/software/coreutils/>
```

```
General help using GNU software: <http://www.gnu.org/gethelp/>
```

```
Report cat translation bugs to <http://translationproject.org/team/>
```

5. Many utilities display a help message that is so long it scrolls off the screen. In this case you can use a pipeline (covered in a later lab; Sobell, page 60) and a pager such as less (Sobell, page 34, and the bottom of Sobell, page 38) to display one screen of information at a time. Call the cp utility, specifying the **--help** option and sending the output through a pipeline to less.

```
$ cp --help | less
```

```
Usage: cp [OPTION]... [-T] SOURCE DEST
```

```
or:  cp [OPTION]... SOURCE... DIRECTORY
```

```
or:  cp [OPTION]... -t DIRECTORY SOURCE...
```

```
Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.
```

```
Mandatory arguments to long options are mandatory for short options too.
```

```
-a, --archive          same as -dR --preserve=all
--backup[=CONTROL]    make a backup of each existing destination
...
```

Press the SPACE bar to display the next screen of information and q to quit using less.

6. The bash **help** command (Sobell, page 39) displays information about bash features. Use the bash **help** command to display information about the echo builtin.

```
$ help echo
echo: echo [-neE] [arg ...]
      Write arguments to the standard output.

      Display the ARGs on the standard output followed by a newline.

Options:
  -n      do not append a newline
  -e      enable interpretation of the following backslash escapes
  -E      explicitly suppress interpretation of backslash escapes
...
```

DELIVERABLES

This lab gives you practice correcting mistakes on the command line and getting assistance with Linux using **man**, the **--help** option, and the bash **help** command. When you use **script** to capture your work in the lab, you can turn the resulting file in to your instructor.