Editing With ed

- An introductory guid[illegible] standard text editor
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Why ed?

- ed is the standard text editor for Unix and Unix-like systems. SUS and POSIX require it. Therefore you can use it on practically any system, even if it doesn't have vim or Emacs. The binary is usually less than 48 KB!
- In addition, if you are working over dialup or a 110 baud teletype, ed's minimalist user interface will help you make the most of your bandwidth. It won't clog up the pipe with verbose error messages, and only displays what you're editing when you ask it to do so. Outgoing, you only send one character

Basic concepts

- Like vim, ed is a modal editor. It has only two modes: command mode and input mode. In command mode, you can edit lines in the buffer, execute external shell commands, read and write files, and print the contents of the buffer. In input mode, you append or insert text into the buffer.
- Unlike vim, which is a display editor, ed is a line editor. Only one line is manipulated at a time, except for global regular expressions. Also unlike vim, ed has no scripting language. In fact, it was designed to be used as a

Viewing a file

- First, let's view the contents of a file. Invoke ed from the command line with the filename as an argument.

- user@hostname$ ed foo.txt
- 27

- It immediately displays the number of characters read into the buffer, including newlines. Use the '**p**'rint command to display the contents.

Line addresses

- Wait a second, what was the meaning of that comma we entered before '**p**'rint? Well, every line in the buffer is numbered, starting from 1. Most commands take a line number or range of line numbers as a prefix argument, and by default use the current line. When a file is first read, the current line is set to the last line in the file, and a newline is appended if needed.
- A range is entered as '**x,y**' where x is the first line and y is the last line in the range. The last line in the buffer can also be referred to as '**$**', and you can also use the relative positions of

Inserting text

- The '**a**'ppend command inserts text into the buffer. It takes a line number argument for the line to append the input after. This enters input mode, and a line consisting of a single period ends the input and returns to command mode.

- 1a
- We all use it.
- .
- ,p
- I love foo.
- We all use it.

Saving the buffer and exiting

- The '**w**'rite command writes the editing buffer to a file. It takes a file path postfix argument, of which the default is set to the file we last read. You can also use a prefix line number argument if you only want to save certain lines. The '**q**'uit command quits.

- wq
- 42
- user@hostname$

- It displays the number of characters written

Changing lines

- The '**s**'ubstitute command changes one or more lines by replacing the match of a regular expression. The regular expression to match and the replacement are delimited by surrounding slashes. You can add a print command at the end to see the result.

```
user@hostname$ ed foo.txt
42
1s/love/really admire/p
I really admire foo.
```

Finding and changing multiple lines

- The '**g**'lobal substitute command is similar to '**s**' but it operates on every line in the buffer. You can use it without changing anything by omitting the replacement string. Fun fact: the Unix command 'grep' ('re' for 'regular expression') was named after this use of the command and designed as a stand-alone implementation to use outside of ed.

- g/you/p
- So should you!

Running external commands

- We mentioned earlier that you can run external commands in ed. The syntax for this is '**! command**', which can be entered by itself or in combination with with other commands. When running an external command, '**%**' is expanded to the default filename. The output of the external command is shown and then '!' indicates that it has terminated. You can use interactive external commands.

- !tac %
- tac foo.txt

And much more

- If you found this interesting, you can look at the GNU Info page for ed.

- user@hostname$ info ed

- Thank you for your attention, and remember, ed is the standard, the true path to nirvana, and the greatest WYGIWYG editor of all!