

```
Finish report by noon
Lunch with Xannie
Swim at 5:30
tim      tty1      Aug 12   07:30
john     tty4      Aug 12   08:26
Tue Aug 12 09:07:24 EDT 2001
$
```

Unix doesn't have a redirection operator that adds text to the beginning of a file. You can do this by storing the new text in a temporary file, then by using a text editor program to read the temporary file into the start of the file you want to edit. You also can do the job with a temporary file and redirection. Maybe you'd like each day's entry to go at the beginning of your *diary* file. Simply rename *diary* to something like *temp*. Make a new *diary* file with today's entries, then append *temp* (with its old contents) to the new *diary*. For example:*

```
$ mv diary temp
$ date > diary
$ cat users >> diary
$ cat temp >> diary
$ rm temp
```

Pipes and Filters

We've seen how to redirect input from a file and output to a file. You can also connect two *programs* together so that the output from one program becomes the input of the next program. Two or more programs connected in this way form a *pipe*. To make a pipe, put a vertical bar (|) on the command line between two commands. When a pipe is set up between two commands, the standard output of the command to the left of the pipe symbol becomes the standard input of the command to the right of the pipe symbol. Any two commands can form a pipe as long as the first program writes to standard output and the second program reads from standard input.

When a program takes its input from another program, performs some operation on that input, and writes the result to the standard output (which may be piped to yet another program), it is referred to as a *filter*. A common use of filters is to modify output. Just as a common filter culls unwanted items, Unix filters can restructure output.

* This example could be shortened by combining the two `cat` commands into one, giving both filenames as arguments to a single `cat` command. That wouldn't work, though, if you were making a real diary with a command other than `cat users`.