Screen for Managing Multiple Terminal Windows

This page brought to you by Prof. Ashvin Goel.

The screen program allows you to multiplex a physical terminal into one or more interactive shells. This program is especially useful for remotely accessing the lab machines. Using the screen program, you can start multiple shells on a lab machine from a single PUTTY or xterm terminal. This is especially beneficial for debugging ECE353 code that requires running multiple programs, such as a client and a server. You can run one program from one window, while running run the other program within a debugger in the other window.

A second benefit of screen is that upon hangup (e.g., if your PUTTY session is killed accidentally), it saves all your running programs until they are resumed with the `screen -DR` command.

To start using screen, create a `~/.screenrc` file with the following contents. The first command allows scrolling back a large number of lines. The second command sets up `Ctrl-z` as the screen escape character that allows you to issue screen commands. The default default screen escape character is `Ctrl-a`, but that can interfere with line editing commands. If you want to suspend a process, use `Ctrl-z a`, instead of the default `Ctrl-z`. The last two lines add a status line at the bottom of the terminal.

```
defscrollback 10000
escape ^za
hardstatus alwayslastline
hardstatus string '%{= kG}[ %{G}%H %{g}][%= %{= kw}%?%-Lw%?%{r}(%{W}%n*%f%t%?(%u)%?%{r})%{w}%?%+L
w%?%?%= %{g}][%{B} %d/%m %{W}%c %{g}]'
```

Start screen by issuing the `screen` command. If you want to start another screen window, type `Ctrl-z c`, which creates a new window. You can see all the windows, by typing `Ctrl-z "`. You can switch between windows by typing `Ctrl-z n` or `Ctrl-z p`. You can finish or kill a screen session by typing `Ctrl-D.`

Say you wish to stop working on your OS lab (it is 4 am). You can detach from screen by typing `Ctrl-z d`. This stops screen but keeps your programs running.

You can log out of the lab machine. Later, you can log back in. To resume screen, type `screen -DR`. You should see all your screen windows in the state you left them in when you detached from screen.

Screen has a lot of features. You can get help by typing `Ctrl-z ?`, or you can read its manual page by running `man screen`.