Copying files in Unix

- cp command in Unix is how we copy files within one machine

- scp/pscp command is *secure copy*; it's a way to transfer copies from one machine to another

- In Mac Terminal or Windows Power Shell use scp <source> <destination>

- Windows with PuTTY installed: Find Command Prompt by searching for cmd, then type pscp <source> <destination>

- Note that file paths on a Windows machine use a backslash \ instead of the forward slash / used in unix environments

scp sources and destinations

- To copy a file named file.c from your home directory on ugrad to a local machine, use the command *on the local machine*
  - we can refer to the networked ugrad server from our laptops, but we can't address the laptop from the ugrad server

`scp <username>@ugradx.cs.jhu.edu:file.c .` (in Mac Terminal or Windows Power Shell)

`pscp <username>@ugradx.cs.jhu.edu:file.c .` (in Windows Command Prompt, after pscp has been dowloaded and installed)

If file resides in subfolder HW1 on ugradx and should go into subfolder xyz on local machine, type

`scp <username>@ugradx.cs.jhu.edu:HW1/file.c xyz/` (on Mac)

`[p]scp <username>@ugradx.cs.jhu.edu:HW1/file.c xyz\` (on Windows)

Bundling files on ugradx with zip

- To pack up several files, type `zip zipped_files.zip file1.c file2.c gitlog.txt`
    - creates zipped_files.zip containing file1.c file2.c and gitlog.txt
- confirm that it contains what you wanted (without unpacking it) by typing `unzip -l zipped_files.zip`
- To actually unpack the zip file (i.e. extract its files), type `unzip zipped_files.zip`
- move and unpack in a new/different folder to avoid overwriting the original files!

Unix Tip: I/O redirection

- When executing a command that produces output, we can redirect the result to a textfile instead of having it displayed on the screen using '> outfile', for example `ls > myfiles.txt`

- When executing a command that takes input, we can redirect the input to come from a plain text file instead of the user typing it interactively using '< infile', for example `less < infile.txt`

- We can also use both at once, or use a pipe command '|' to send the standard output of one command directly into standard input for another command. For example, to list your files but view the list one screenful at a time type `ls | less`

Homework workflow

- Write source code, compile and test it, edit as needed until it is correct (continuously add, commit, push your changes to your personal git repo)
- Generate gitlog.txt file documenting your commits `git log > gitlog.txt`
- Bundle files for submission with zip hw0.zip file1.c file2.c gitlog.txt
- Confirm that your zip file contains everything you need with `unzip -l hw0.zip`
- Transfer the bundle onto local machine, if zip file is in a directory named HW0 scp `<username>@ugradx.cs.jhu.edu:HW0/hw0.zip` .
- Upload hw0.zip to Gradescope, wait for autograder feedback; resubmit?

Exercise 1-2

- Now, finish ex1-2
- Piazza->Resources->Exercises