Beyond the GUI -Working with the bash Shell

Week 5
Data Science Workshop for
NGA LTER REU Students

Review of Last Week

- 1. Tour of data archives
- 2. Data Citations
- 3. Persistent digital object identifiers (DOIs)

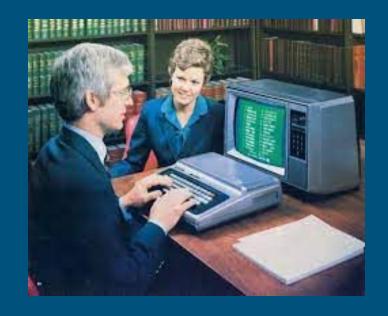
Goals for Today

- Introducing the bash shell
- Interactive lesson working with files and directories
- Brief overview of other things you might like to try on your own
 - Combining commands
 - Loops
 - Scripts
 - Finding things

Some definitions:

- Shell: outermost layer around the operating system
 - Computer program
 - Allows humans to interact with the computer
- GUI: Graphical User Interface
 - Menus
 - Point and click
- CLI: Command Line Interface
 - o Commands to the computer as lines of text
- bash: a UNIX CLI shell
 - Specific syntax for commands
 - Allows scripting
 - zsh is different shell now default in later MacOS computers

Back in the old days ...





Advantages

- Originated with UNIX/LINUX computers
 - Used by supercomputers
 - UNIX-y tools like git developed in CLI environment
- Remote computer via ssh
 - Don't have to mirror screen
- Repetitive tasks

Let's try it out.

What did we do?

- ls:list
- cd : change directory
- mkdir : make a new directory
- nano : text editor
- cat: print contents of a file to the screen
- mv : move a file or directory
- cp : copy a file or directory
- rm: remove a file

What could we do?

- Pipes and Filters: combine commands to do new things
- Loops: perform the same actions on many different files
- Shell Scripts : save and re-use commands
- Find files
- Find things in files

http://swcarpentry.github.io/shell-novice/

Finish-up

Assignment #5 on GitHub - Install git

Next week we will be at a this Zoom Link again