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401-HAS Tools

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Cheat Sheet Assignment 1

**Intro to Bash** - easily navigate your computers files and folders, run and launch programs from command line or from specific directories on your computer

* Terminal: sends commands to the computer and then the computer processes the commands
  + Can use the terminal to launch Jupyter notebook, notes, python, and git
  + GUI: Graphical user interface (compatible with bash)

\*Mac OS systems already have terminal 🡪 check for bash by typing “bash” in the terminal 🡪 if the terminal comes back with a $ then terminal is waiting for additional info

**Bash Commands** –

* Print the name of the directory you are currently working on by typing “pwd”
* Change directory by typing “cd” followed by the directory that you want instead 🡪 go back to the original directory by typing “cd ~”
* Create a new directory: cd to the new directory, then use “mkdir” with the name for the new directory, then use “pwd” to make sure you are in the directory you want
* Print the paths of the directory using “ls”
* Delete a file in the directory using “rm” and the file name you want deleted
* Delete a directory using “rm –r” with the directory you want deleted
* Copy a file using “cp” with the name of the new file
* Copy a directory and file using “cp – r” with the name of the directory
* Create a new empty file by using “touch”

**GitHub**- in the cloud, provides a backup of your work, allows work and collaboration on projects

* Version control: can save, review, or revert to previous versions; ability to collaborate on projects (git)
  + Tracks what changes have been made to files over time
* Copying(forking) and downloading(cloning)
  + Structure of repositories
    - .git is always included to manage and track tasks
    - When repos are stored on GitHub.com, a unique URL is created for the individual that created it
* Forking: a copy of a repo owned by another user that is linked to the original 🡪 allows you to collaborate with others while maintaining the original version of the file(s)
* Cloning: local copy of a repo on your computer 🡪 allows you to work with files on your computer

**Git Commands for Version Control**-

* Git add- changed files to version control tracking (moves files to the staging area)
* Git commit- changed files to create a unique snapshot of the local repository (moves the files to the git repository along with a message)
* Git push- changed files from the local copy of a repository to the cloud (moves the files to the cloud)
* Use “git status” to check what commands are being used by git 🡪 working clean tree means that there are no changed to your repo yet

**Undo Local Changes with Git**-

* Undo changes by running “git checkout” along with the file name or undo all changes by using “git checkout .”
* Run “git status” to check what changes were made in your repo/ what changes were undone
* Unstage changes
  + Use “git reset” to pull the most recently committed version of the file and undo changes 🡪 unstaging the file
  + Run “git status” to check
* Undo commit
  + Use “git reset HEAD~”
  + Run “git checkout” to undo the changes to the file
  + Run “git status” to check