**Key points**

* Recap: there are four stages: working directory, staging area, local repository, and upstream repository
* Clone an existing upstream repository (copy repo url from clone button, and type "git clone <url>"), and all three local stages are the same as upstream remote.
* The working directory is the same as the working directory in Rstudio. When we edit files we only change the files in this place.
* git status: tells how the files in the working directory are related to the files in other stages
* edits in the staging area are not tracked by the version control system by default - we add a file to the staging area by git add command
* git commit: to commit files from the staging area to local repository, we need to add a message stating what we are doing by git commit -m "something"
* git log: keeps track of all the changes we have made to the local repository
* git push: allows moving from the local repository to upstream repository, only if you have the permission (e.g. if it is yours)
* git fetch: update local repository to  be like the upstream repository, from upstream to local
* git merge: make the updated local sync with the working directory and staging area
* To change everything in one shot (from upstream to working dir), use git pull (equivalent to combining git fetch+ git merge)

**Code**

pwd

mkdir git-example

cd git-example

git clone https://github.com/rairizarry/murders.git

cd murders

ls

git status

echo "test" >> new-file.txt

echo "temporary" >> tmp.txt

git add new-file.txt

git status

git commit -m "adding a new file"

git status

echo "adding a second line" >> new-file.txt

git commit -m "minor change to new-file" new-file.txt

git status

git add

git log new-file.txt

git push

git fetch

git merge

Push up stream:

cd ~/projects/murders

git init

git add README.txt

git commit -m "First commit. Adding README.txt file just to get started"

git remote add origin <https://github.com/rairizarry/murders.git>

OR

git remote set-url origin

<https://github.com/jarektan/murders.git>

git push # you may need to add these arguments the first time: --set-upstream origin master

More advanced Unix commands

* Arguments typically are defined using a dash (-) or two dashes (--) followed by a letter of a word.
* r: recursive. For example, rm -r <directory-name>: remove all files, subdirectories, files in subdirectories, subdirectories in subdirectories, etc.
* Combine arguments: rm -rf directory-name
* ls -a: Shows all files in the directories including hidden files (e.g. .git file when initializing using git init) (a for all).
* ls -l: Returns more information about the files (i.e. l for long).
* ls -t: Shows files in chronological order.
* ls -r: Reverses the order of how files are shown.
* ls -lart: Shows more information for all files in reverse chronological order.