# BASH Navigating

cd name\_of\_directory
cd .. # Go up one
cd ~ # Go to home
pwd # Where am I?

# Listing files

ls # List files
ls -a # See hidden
ls -l # See more info
ls -R # Recursive

## Moving and renaming

mv file.txt new\_name.txt
mv file.txt ../new/place/

# Copying

cp file.txt file\_backup.txt
cp -r directory/ backup/

#### **Deleting**

rm file.txt
rmdir empty\_directory/
rm -r full\_directory/

## Creating

mkdir my\_directory
touch empty\_file.py

## Reading data from file

cat filename.txt
cat file1 file2 file3

## Redirecting data into file

ls -R > all\_files.txt
cat a.html b.html > c.html

#### Running file as bash script

# Save commands to script.sh bash script.sh

#### BASH TRICKS

Auto complete Start typing then hit <Tab>. Hit twice for options.

#### Previous command history <Up>

Search previous history <Ctrl+R> then start typing, <Ctrl+R> to cycle back, <Enter> to run.

## Wildcards

rm \*.jpg # Delete jpg files

# Advanced piping

# Search process for "chrome" if frozen-in-time, ups -e | grep chrome nated by a hash (loftind . | grep .py\$ # find py files ters and numbers).

# GIT

Starting GitHub repo Click button on GitHub. Check box to create with "README". Then clone locally (U and R should be username and repo name):

git clone http://github.com/U/R.git

#### Starting (local-only) repo

git init

#### Adding changes and committing

```
git add -A
git commit -m "Fixed :)"
```

#### Finding out status

git status git log

#### Learning about past

git log # Q to quit git show f85bfcf git diff f85bfcf master git checkout f85bfcf

#### Branch workflow

git branch my-stuff
git checkout my-stuff
# Do some work...
git add -A
git commit -m "did stuff"
git checkout master
git merge my-stuff

#### Interacting with GitHub

git pull # get updates
# Do some work...
git add -A
git commit -m "it works!"
git push # share updates

# KEY TERMS

Repository A repo is a "git enabled" directory, stores "undo-history" (commit log) and enables collaboration (via push and pull).

Commit The state of a *repo*, as if frozen-in-time, uniquely designated by a *hash* (long series of letites ters and numbers).

# **PYTHON**

You can test Python with the interactive prompt (aka "REPL"):

## Interactive prompt

```
python3
>>> print("Hello world")
Hello world
>>> 5 + 5
10
>>> exit()
```

## Running code from file

# Save code as mycode.py python3 mycode.py

# Hello world program

print("Hello world")
menu = "Spam spam spam"
print(menu)

# Python I/O

# Reading text from file

text = open("file.txt").read()
print("file.txt has: ", text)

#### Writing to file

text = "Some text for o.txt"
open("o.txt", "w+").write(text)

#### Appending to file

text = "Repeat this text x3"
open("o.txt", "a+").write(text)
open("o.txt", "a+").write(text)
open("o.txt", "a+").write(text)

#### Combining files

start = open("f1.txt").read()
end = open("f2.txt").read()
full = start + end
open("f3.txt", "w+").write(full)

#### KEY TERMS

Variable A named "bucket" that holds data. Can be updated with assignment operator (equals sign =)

String Text data, term comes from "string of characters"

Operator A symbol that can perform arithmetic, modifying and combines data in variables, e.g. +/-.