All codes will be shared via google colab or .ipynb files

Installing Anaconda
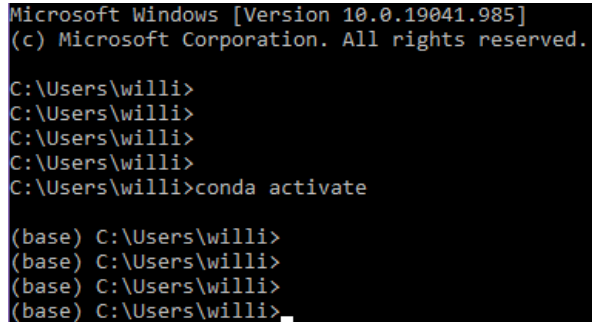
https://docs.anaconda.com/anaconda/install/

after instillation in a terminal or command prompt:

```
conda activate
```

your terminal should now have (base) as a prefix now.

```
Microsoft Windows [Version 10.0.19041.985]
(c) Microsoft Corporation. All rights reserved.

C:\Users\willi>
C:\Users\willi>
C:\Users\willi>
C:\Users\willi>
C:\Users\willi>conda activate

(base) C:\Users\willi>
(base) C:\Users\willi>
(base) C:\Users\willi>
(base) C:\Users\willi>_
```

Setting up an environment

Making a new environment

```
conda create --name ENVNAME python=3.7
```

Cloning an environment

```
conda create --clone ENVNAME --name NEWENV
```

activating an environment

```
conda activate ENVNAME
```

Building environment from a .yaml

in a terminal or command prompt

```
conda env create --name envname --file=ENV.yml
```

Navigating command line

- cd allows you to move up or down path levels, ie in and out of folders
- cd .. moves you one level back up
- ls (mac/unix) or dir (windows) lets you view current files in your current working directory

Here I move from my home directory into where I have stored the uqbio, list the files there and then move back to my home directory.

```
(base) C:\Users\willi>
(base) C:\Users\willi>
(base) C:\Users\willi>
(base) C:\Users\willi>cd Documents

(base) C:\Users\willi\Documents>cd GitHub

(base) C:\Users\willi\Documents\GitHub>cd uqbio2021

(base) C:\Users\willi\Documents\GitHub\uqbio2021>dir
 Volume in drive C has no label.
 Volume Serial Number is F6F3-C1BA

 Directory of C:\Users\willi\Documents\GitHub\uqbio2021

05/18/2021  01:57 PM    <DIR>          .
05/18/2021  01:57 PM    <DIR>          ..
05/17/2021  01:54 PM             8,196 .DS_Store
05/12/2021  05:14 PM    <DIR>          databases
05/12/2021  05:22 PM    <DIR>          figures
05/12/2021  05:14 PM             1,122 LICENSE
05/18/2021  02:20 PM    <DIR>          module_0
05/12/2021  05:14 PM    <DIR>          module_1
05/12/2021  05:14 PM    <DIR>          module_2
05/12/2021  05:14 PM    <DIR>          module_3
05/12/2021  05:14 PM    <DIR>          module_4
05/12/2021  05:14 PM    <DIR>          module_5
05/12/2021  05:14 PM             3,932 README.md
05/17/2021  08:22 PM    <DIR>          templates
05/18/2021  01:57 PM               495 TODO.md
               4 File(s)         13,745 bytes
              11 Dir(s)  37,443,776,512 bytes free

(base) C:\Users\willi\Documents\GitHub\uqbio2021>cd ..

(base) C:\Users\willi\Documents\GitHub>cd ..

(base) C:\Users\willi\Documents>cd ..

(base) C:\Users\willi>
```

running python or ipython

`python` or `ipython`

```
C:\Users\willi>conda activate

(base) C:\Users\willi>ipython
C:\Users\willi\Anaconda2\lib\site-packages\win_unicode_console\__init__.py:31: RuntimeWarning: sys.stdin.encoding =
= '1252', whereas sys.stdout.encoding == 'utf-8', readline hook consumer may assume they are the same
  readline_hook.enable(use_pyreadline=use_pyreadline)
Python 2.7.13 |Anaconda, Inc.| (default, Sep 19 2017, 08:25:59) [MSC v.1500 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 5.4.1 -- An enhanced Interactive Python.
?         -> Introduction and overview of IPython's features.
%quickref -> Quick reference.
help      -> Python's own help system.
object?   -> Details about 'object', use 'object??' for extra details.

In [1]: _
```

```
(base) C:\Users\willi>python
Python 2.7.13 |Anaconda, Inc.| (default, Sep 19 2017, 08:25:59) [MSC v.1500 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

Running Jupyter Notebook

In the desired directory:

`jupyter notebook`

```
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>
(newpy36clone) C:\Users\willi\Documents\GitHub\uqbio2021\module_0>jupyter notebook
[I 14:52:41.319 NotebookApp] Serving notebooks from local directory: C:\Users\willi\Documents\GitHub\uqbio2021\modu
le_0
[I 14:52:41.320 NotebookApp] The Jupyter Notebook is running at:
[I 14:52:41.322 NotebookApp] http://localhost:8888/?token=de433f1d5a3fb971a52672d83832ddd2d2d08083d90638b2
[I 14:52:41.322 NotebookApp]  or http://127.0.0.1:8888/?token=de433f1d5a3fb971a52672d83832ddd2d2d08083d90638b2
[I 14:52:41.323 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmatio
n).
[C 14:52:41.332 NotebookApp]

    To access the notebook, open this file in a browser:
        file:///C:/Users/willi/AppData/Roaming/jupyter/runtime/nbserver-10152-open.html
    Or copy and paste one of these URLs:
        http://localhost:8888/?token=de433f1d5a3fb971a52672d83832ddd2d2d08083d90638b2
     or http://127.0.0.1:8888/?token=de433f1d5a3fb971a52672d83832ddd2d2d08083d90638b2
[W 14:52:45.874 NotebookApp] Notebook Intro_to_Python_with_google_colab_0a.ipynb is not trusted
[I 14:52:46.809 NotebookApp] Kernel started: 1e9f660d-4afc-4246-af0c-be4d4299dce5
```

Intro to Python: Types, Arithmetic Operations, Iterables, and Containers

Qbio Summer School 2021

```
Instructor: Will Raymond
Author: Will Raymond
Contact Info: wsraymon@rams.colostate.edu

Copyright (c) 2021 Dr. Brian Munsky. Colorado State University.
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```

Welcome!

What is Python?

Python is an interpreted, high-level programming language available and widely used throughout the world in a myriad of applications.

Why Python?

From there you can run the course notebooks (.ipynb files)

Anaconda cheat sheet: https://docs.conda.io/projects/conda/en/latest/_downloads/843d9e0198f2a193a3484886fa28163c/conda-cheatsheet.pdf