

Introduction to Scientific Computing: A Crash Course

Presented by Travis J Lawrence and Dana L Carper
Quantitative and Systems Biology
University of California, Merced

Worksheet 1.1

1. Open the terminal, what directory are you currently in?

IF USING THE MERCED CLUSTER FOLLOW THESE INSTRUCTIONS, IF NOT PROCEED TO QUESTION2:

Login to cluster with the following command:

```
ssh username@Merced
```

enter your password when prompted
once logged in type the following commands:

```
wget https://github.com/tlawrence3/Introduction-to-Scientific-Computing/archive/master.zip  
unzip master.zip
```

now continue to question 2

2. We are now going to create directories for the upcoming parts of the workshop. Create a folder for this workshop, this can be done wherever you want to but we recommend the desktop

- a. What did you name the directory?
- b. What is the absolute path to this new directory?

3. Copy the zip file you downloaded at the beginning of this course to the new folder you created, what command did you use?

4. Now navigate to the new folder that you created

- a. What command did you use to get to the new directory?
- b. Did you use the absolute or relative path to navigate to the new directory?
- c. How would you check to make sure the zip file you downloaded at the beginning is there?
- d. unzip the folder using the following command:

5. Now create three new directories within the directory you made in Question 2. These three directories should be called:

Part1.3.databases

Part1.4.Fast

Part2.python

What commands did you use to create these folders?

6. We are now going to move the files within the unzipped folder to these new folders:

a. Move Plantae.csv.zip to folder Part1.3.databases

b. Copy Arabidopsis_thaliana.TAIR10.35.gff3.zip, Hordeum_vulgare.ASM32608v1.35.chr.gff3.zip, and Zea_mays.AGPv4.35.chr.gff3 to folder Part1.3.databases and to folder Part2.python

c. Move 1.4.Penstemon.gb and 1.4.tRNA.fasta.zip to folder Part1.4.Fast

d. What commands did you use?

e. For the files that you moved that have an ending of .zip you will need to unzip these, use the following command to do this replacing the filename with the names above, you will need to run this for each of those files:

```
$ unzip filename.zip
```

f. For the file that has the ending .gz (Zea_mays.AGPv4.35.chr.gff3.gz) use the following command to unzip this file

```
$ gunzip -d Zea_mays.AGPv4.35.chr.gff3.gz
```

7. Now we are going to delete the files we don't need anymore

a. Delete the zip file originally downloaded for this workshop, what command did you use?

b. Delete the folder that was created when you originally unzipped the folder (you should have a copy of this in that new folder) what command did you use?

8. We want to look at one of the files that we got

a. What command would you use to look at Plantae.csv?

b. What is on the first line of that file?

9. Now we are going to examine our \$PATH:

a. What command do we use to look at our \$PATH?

b. If we want to add the folder created in question 3 to our \$PATH just for the current session, What command would we use to do this?

c. In the command above did you need to put the absolute or relative PATH of the directory?