Lab 246
Nov 25

1. SSH keys
if you have not already done so, set ssh keys to allow you to ago from one cs machine to another without entering passwords

ssh-keygen -t rsa
do not give a pass phrase
put keys into default location
cd ~/.ssh
cp id_rsa.pub authorized_keys

2. Write a shell script that prints numbers from 1 to 20. Write this script twice, one using while and once using for. Read about each on the web (or ch 29 of Shotts)

3. Modify the script in 2 to count from one number to another as supplied on the command line. You may assume that the user provides 2 integers on the command line but cannot assume that the numbers are in any particular order.

4. Write a version of wc using a shell script. It should count lines and words but not characters (see /home/gtowell/Public246/Lab1125/reader.sh for reading files)

5. modify the dirsum.sh script to recursively work on directories. That is, it should calculate the number of bytes used by files in this directory, and all directories below this. Add comments to your script to explain everything
(/home/gtowell/Public246/Lab1125/dirsum.sh)

6. Modify png.sh to use uptime rather than who. Further modify output to print immediately understandable load statistics (you will need to figure out what load stats uptime provides)
(/home/gtowell/Public246//Lab1125/png.sh)

7. The cal function in unix will print out a calander of any month / year

for instance: cal 11 2020

```
    November 2020
Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7
 8  9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
```

Write a shell script that transposes cal. It would print

```
November 2020
Su 1 8 15 22 29
Mo 2 9 16 23 30
Tu 3 10 17 24
We 4 11 18 25
Th 5 12 19 26
Fr 6 13 20 27
Sa 7 14 21 28
```

for doing so it will be very useful to know that you can create and add items to an array in shell scripts using

```
ARRAY=()
ARRAY+=('foo')
```

8. Modify your cal transposer to print of the date of the fourth thursday in any momth. Have a good Thanksgiving.