

Step 0: get the data file (I will not cover this)

ssh to snowball

```
cp /home/dshah8/lab2data.txt ~
```

step1: check the data file

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat lab2data.txt | less
```

```
5/12/2  
-2/2/1  
15/13/15  
-1/8/12  
4/17/13  
15/18/15  
15/22/14  
11/13/16
```

step 2: write awk file that converts the string to knuts

```
[dshah8@gsuad.gsu.edu@snowball ~]$ nano string2knuts.sh
```

```
dshah8@gsuad.gsu.edu  
File Edit View Search Terminal Help  
GNU nano 2.3.1 File: string2knuts.sh  
#!/bin/bash  
awk '{  
sign = "";  
if (substr($0,1,1)=="-")  
    {sign="-"};  
gsub("-", "", $0);  
split($0, gck, "/");  
#print gck[1], gck[2], gck[3];  
knuts = (gck[1]*23 + gck[2])*17 + gck[3];  
if (sign == "-")  
    {knuts = -knuts};  
print knuts;  
'
```

step 3: check the outputs of this file

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat lab2data.txt | ./string2knuts.sh | less
```

```
2161
-817
6101
-539
1866
6186
6253
4538
```

step 4: save this output to work on the second part

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat lab2data.txt | ./string2knuts.sh >> tmp.txt
```

step 5: write second awk file

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat tmp.txt | ./knuts2string.sh | less
```

```
File Edit View Search Terminal Help
GNU nano 2.3.1 File: knuts

#!/bin/bash
awk '{
sign = "";
if (substr($0,1,1)=="-")
    {sign = "-"};
gsub("-", "", $0);
gallons = int($0/(23*17));
rem = $0 % (23*17);
sicles = int(rem/17);
knuts = rem % 17;
result = sign gallons "/" sicles "/" knuts;
print result;
}'
```

step 6: check the output of the second file

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat tmp.txt | ./knuts2string.sh | less
```

This should match the original file. (left hand is the output of the above command, right one is the original file)

5/12/2	5/12/2
-2/2/1	-2/2/1
15/13/15	15/13/15
-1/8/12	-1/8/12
4/17/13	4/17/13
15/18/15	15/18/15
15/22/14	15/22/14
11/13/16	11/13/16

step 7: sum the knuts of the output of the first file

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat lab2data.txt | ./string2knuts.sh | awk 'BEGIN {sum = 0}
{sum += $0} END {print sum}'
109824
```

step 8: pipe this sum to the second file

```
[dshah8@gsuad.gsu.edu@snowball ~]$ cat lab2data.txt | ./string2knuts.sh | awk 'BEGIN {sum = 0}
{sum += $0} END {print sum}' | ./knuts2string.sh
280/20/4
```