

Lab 0 Solutions  
Michael Kepple

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### Problem 1: User Count

=====

Code: `who | sed 's/ .*//' | uniq | wc -l`

Test:

```
(student)~% who
colbertbg pts/0      2013-01-24 12:50 (71-12-216-41.dhcp.spbg.sc.charter.com)
feimsterwj pts/1     2013-01-24 12:18 (csl2-208.cs.appstate.edu)
root      tty1       2012-12-17 13:20 (:0)
root      pts/2      2012-12-17 13:20 (:0.0)
hodgesja pts/3       2013-01-24 13:41 (68-119-41-76.dhcp.spbg.sc.charter.com)
efb       pts/4       2013-01-24 13:36 (ip-152010196072.cs.appstate.edu)
root      pts/5       2013-01-23 09:47 (csfac-242.cs.appstate.edu)
johnsonjl pts/7       2013-01-24 13:42 (wnat-152010251098.appstate.edu)
beauchampme pts/8    2013-01-24 00:31 (ip-152010160060.reslife.appstate.edu)
efb       pts/9       2013-01-24 13:25 (ip-152010196072.cs.appstate.edu)
deanzt    pts/10      2013-01-24 12:24 (cspub231.cs.appstate.edu)
kepplemr pts/11       2013-01-24 13:37 (csgs154.cs.appstate.edu)
kepplemr pts/12       2013-01-24 13:45 (csgs192.cs.appstate.edu)
ab67597   pts/13       2013-01-24 10:08 (phy244-8.phys.appstate.edu)
williamsonst pts/14    2013-01-24 13:46 (cspub229.cs.appstate.edu)
garceaur pts/15       2013-01-24 13:46 (cspub230.cs.appstate.edu)
kepplemr pts/16       2013-01-24 13:48 (csgs192.cs.appstate.edu)
colbertbg pts/17      2013-01-24 12:52 (71-12-216-41.dhcp.spbg.sc.charter.com)
triggsg   pts/18       2013-01-24 13:53 (ip-152010159147.cs.appstate.edu)
st79375   pts/23       2013-01-23 19:22 (csggrad-156.cs.appstate.edu)
```

```
(student)~% who | sed 's/ .*//' | sort | uniq | wc -l
14
```

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### Problem 2: Username Filter

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Code with digits: `cat /etc/passwd | sed 's/:.*//' | egrep -o '^[0-9]+' | wc -l`  
Code without digits: `cat /etc/passwd | sed 's/:.*//' | egrep -v '^[0-9]+' | wc -l`

Tests:

```
(student)~% cat /etc/passwd | sed 's/:.*//' | egrep -o '^[0-9]+' | wc -l
248
(student)~% cat /etc/passwd | sed 's/:.*//' | egrep -v '^[0-9]+' | wc -l
1038
```

=====

### Problem 3: Digits in date command

=====

Code: `date | grep -o '[0-9]' | wc -l`

Test:

```
(student)~% date | grep -o '[0-9]' | wc -l
12
```

=====

### Problem 4: Letter shift (except m)

=====

Code: `tr '[a-l][n-z]' '[A-L][N-Z]'`

Test:

```
(student)~% tr '[a-l][n-z]' '[A-L][N-Z]'
```

```
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

```
=====
Problem 5: Letter interchange
=====
```

```
Code: sed 's/\(^.\{3\}\)\(.*\)\(...\)$/\3\2\1/'
```

```
Test:
```

```
(student)~% sed 's/\(^.\{3\}\)\(.*\)\(...\)$/\3\2\1/'
```

```
aaabccc
```

```
cccbaaa
```

```
abcdefg
```

```
efgdabc
```

```
=====
Problem 6: CSV Header
=====
```

```
Code: awk -F\, ' {print "\nFirst = \"$1, "\nSecond = \"$2, "\nThird = \"$3}'
```

```
Test:
```

```
(student)~% awk -F\, ' {print "\nFirst = \"$1, "\nSecond = \"$2, "\nThird = \"$3}'
1,2,3
```

```
First = 1
```

```
Second = 2
```

```
Third = 3
```

```
=====
Problem 7: Addition
=====
```

```
Code: awk '{One = One + $1; Two = Two + $2;}\nEND{print "-----\n"; print One " " Two;}' awk-ex
```

```
(student)~% cat awk-ex
```

```
1 2
```

```
1 2
```

```
Test: (student)~% awk '{One = One + $1; Two = Two + $2;}\nEND{print "-----\n"; print One " " Two;}' awk-ex
```

```
-----
```

```
2      4
```

```
=====
Problem 8: Grad Problem
=====
```

```
Code: sed 's/\(^a+\)\.[^b]\(b+\)$/\2X\1/'
```

```
Test:
```

```
(student)~% sed 's/\(^a+\)\.[^b]\(b+\)$/\2X\1/'
```

```
aaaddbddbbb
```

```
bbbXaaa
```

```
aaaaaa4556ASSDbbbBBBBbbbereerebbbb
```

```
bbbbXaaaaaa
```