

lab 7

Question # 1

```
katy@cisl06:~/Documents$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:/:/nonexistent:/usr/sbin/nologin
```

```
katy@cisl06:~/Documents$ tac /etc/passwd
_flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
katy:x:1000:1000:Katiuska,,,:/home/katy:/bin/bash
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
gnome-initial-setup:x:124:65534:/:/run/gnome-initial-setup:/bin/false
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
geoclue:x:122:127:/:/var/lib/geoclue:/usr/sbin/nologin
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
whoopsie:x:120:125:/:/nonexistent:/bin/false
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
saned:x:117:123:/:/var/lib/saned:/usr/sbin/nologin
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
avahi:x:115:121:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
cups-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
tcpdump:x:108:115:/:/nonexistent:/usr/sbin/nologin
uuid:x:107:114:/:/run/uuid:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
_apt:x:105:65534:/:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:/:/home/syslog:/usr/sbin/nologin
messagebus:x:103:106:/:/nonexistent:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
games:x:5:60:games:/usr/games:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
```

```

katy@cis106:~/Documents$ cat -nE /etc/passwd
 1 root:x:0:0:root:/root:/bin/bash$
 2 daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin$
 3 bin:x:2:2:bin:/bin:/usr/sbin/nologin$
 4 sys:x:3:3:sys:/dev:/usr/sbin/nologin$
 5 sync:x:4:65534:sync:/bin:/bin/sync$
 6 games:x:5:60:games:/usr/games:/usr/sbin/nologin$
 7 man:x:6:12:man:/var/cache/man:/usr/sbin/nologin$
 8 lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin$
 9 mail:x:8:8:mail:/var/mail:/usr/sbin/nologin$
10 news:x:9:9:news:/var/spool/news:/usr/sbin/nologin$
11 uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin$
12 proxy:x:13:13:proxy:/bin:/usr/sbin/nologin$
13 www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin$
14 backup:x:34:34:backup:/var/backups:/usr/sbin/nologin$
15 list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin$
16 irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin$
17 gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin$
18 nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin$
19 systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin$
20 systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin$
21 systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin$
22 messagebus:x:103:106:nonexistent:/usr/sbin/nologin$
23 syslog:x:104:110:/home/syslog:/usr/sbin/nologin$
24 apt:x:105:65534:nonexistent:/usr/sbin/nologin$
25 tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false$
26 uidd:x:107:114:/run/uidd:/usr/sbin/nologin$
27 tcpdump:x:108:115:nonexistent:/usr/sbin/nologin$
28 avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin$
29 usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin$
30 rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin$
31 dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin$
32 cups-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin$
33 speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false$
34 avahi:x:115:121:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin$
35 kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin$
36 saned:x:117:123:/var/lib/saned:/usr/sbin/nologin$
37 nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin$
38 hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false$
39 whoopsie:x:120:125:nonexistent:/bin/false$
40 colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin$
41 geoclue:x:122:127:/var/lib/geoclue:/usr/sbin/nologin$
42 pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin$
43 gnome-initial-setup:x:124:65534:/run/gnome-initial-setup:/bin/false$
44 gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false$

```

```

katy@cis106:~/Documents$ head -5 /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync

```

```

katy@cis106:~/Documents$ tail -5 /etc/passwd
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
katy:x:1000:1000:Katiushka,,,:/home/katy:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
_flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
k Katy@cis106:~/Documents$

```

Question # 2

```
katy@cisl06:~/Documents$ cut -d ':' -f1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
systemd-timesync
```

```
katy@cisl06:~/Documents$ cut -d ':' -f1,7 /etc/passwd
root:/bin/bash
daemon:/usr/sbin/nologin
bin:/usr/sbin/nologin
sys:/usr/sbin/nologin
sync:/bin/sync
games:/usr/sbin/nologin
man:/usr/sbin/nologin
lp:/usr/sbin/nologin
mail:/usr/sbin/nologin
news:/usr/sbin/nologin
uucp:/usr/sbin/nologin
proxy:/usr/sbin/nologin
www-data:/usr/sbin/nologin
backup:/usr/sbin/nologin
list:/usr/sbin/nologin
irc:/usr/sbin/nologin
gnats:/usr/sbin/nologin
nobody:/usr/sbin/nologin
systemd-network:/usr/sbin/nologin
systemd-resolve:/usr/sbin/nologin
systemd-timesync:/usr/sbin/nologin
messagebus:/usr/sbin/nologin
syslog:/usr/sbin/nologin
_apt:/usr/sbin/nologin
tss:/bin/false
uidd:/usr/sbin/nologin
tcpdump:/usr/sbin/nologin
avahi-autoipd:/usr/sbin/nologin
usbmux:/usr/sbin/nologin
rtkit:/usr/sbin/nologin
dnsmasq:/usr/sbin/nologin
cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:/bin/false
avahi:/usr/sbin/nologin
kernoops:/usr/sbin/nologin
saned:/usr/sbin/nologin
nm-openvpn:/usr/sbin/nologin
hplip:/bin/false
whoopsie:/bin/false
colord:/usr/sbin/nologin
geoclue:/usr/sbin/nologin
pulse:/usr/sbin/nologin
gnome-initial-setup:/bin/false
qdm:/bin/false
```

```
katy@cis106:~/Documents$ cut -d ':' -f1,7 --output-delimiter=' ' /etc/passwd
root = /bin/bash
daemon = /usr/sbin/nologin
bin = /usr/sbin/nologin
sys = /usr/sbin/nologin
sync = /bin/sync
games = /usr/sbin/nologin
man = /usr/sbin/nologin
lp = /usr/sbin/nologin
mail = /usr/sbin/nologin
news = /usr/sbin/nologin
uucp = /usr/sbin/nologin
proxy = /usr/sbin/nologin
www-data = /usr/sbin/nologin
backup = /usr/sbin/nologin
list = /usr/sbin/nologin
irc = /usr/sbin/nologin
gnats = /usr/sbin/nologin
nobody = /usr/sbin/nologin
systemd-network = /usr/sbin/nologin
systemd-resolve = /usr/sbin/nologin
systemd-timesync = /usr/sbin/nologin
messagebus = /usr/sbin/nologin
syslog = /usr/sbin/nologin
_apt = /usr/sbin/nologin
tss = /bin/false
uudd = /usr/sbin/nologin
tcpdump = /usr/sbin/nologin
avahi-autoipd = /usr/sbin/nologin
usbmux = /usr/sbin/nologin
rtkit = /usr/sbin/nologin
dnsmasq = /usr/sbin/nologin
cups-pk-helper = /usr/sbin/nologin
speech-dispatcher = /bin/false
avahi = /usr/sbin/nologin
kernoops = /usr/sbin/nologin
saned = /usr/sbin/nologin
nm-openvpn = /usr/sbin/nologin
hplip = /bin/false
whoopsie = /bin/false
colord = /usr/sbin/nologin
geoclue = /usr/sbin/nologin
pulse = /usr/sbin/nologin
gnome-initial-setup = /bin/false
gdm = /bin/false
```



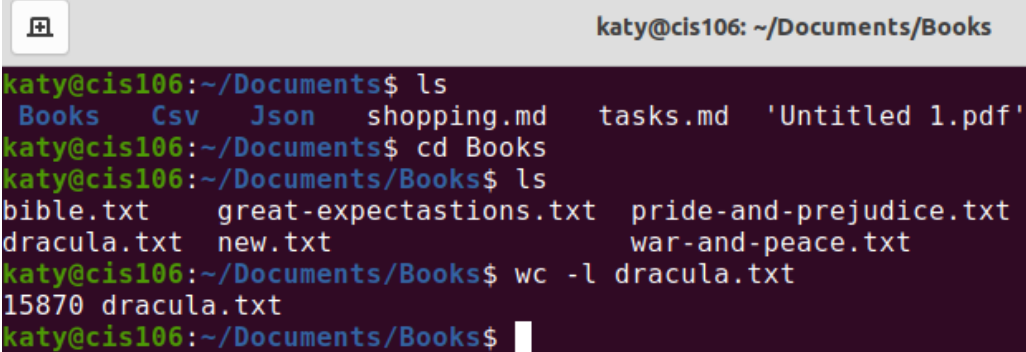
```

katy@cis106:~/Documents$ cut -d ':' --complement -s -f3 /etc/passwd
root:x:0:root:/root:/bin/bash
daemon:x:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:bin:/bin:/usr/sbin/nologin
sys:x:3:sys:/dev:/usr/sbin/nologin
sync:x:65534:sync:/bin:/bin/sync
games:x:60:games:/usr/games:/usr/sbin/nologin
man:x:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:104:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
messagebus:x:106::/nonexistent:/usr/sbin/nologin
syslog:x:110::/home/syslog:/usr/sbin/nologin
_apt:x:65534::/nonexistent:/usr/sbin/nologin
tss:x:111:TPM software stack,,:/var/lib/tpm:/bin/false
uidd:x:114::/run/uidd:/usr/sbin/nologin
tcpdump:x:115::/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:116:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:117:RealtimeKit,,:/proc:/usr/sbin/nologin
dnsmasq:x:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
cups-pk-helper:x:120:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:29:Speech Dispatcher,,:/run/speech-dispatcher:/bin/false
avahi:x:121:Avahi mDNS daemon,,:/var/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin
saned:x:123::/var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:124:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:7:HPLIP system user,,:/run/hplip:/bin/false
whoopsie:x:125::/nonexistent:/bin/false
colord:x:126:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:127::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:128:PulseAudio daemon,,:/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:65534::/run/gnome-initial-setup:/bin/false
gdm:x:130:Gnome Display Manager:/var/lib/gdm3:/bin/false

```

Question # 3

```
katy@cis106:~/Documents$ curl -s https://cis106.com/assets/shopping.md -o shopping.md
katy@cis106:~/Documents$ ls
Books  Csv  Json  shopping.md  'Untitled 1.pdf'
katy@cis106:~/Documents$ curl -s https://cis106.com/assets/tasks.md -o tasks.md
katy@cis106:~/Documents$ ls
Books  Csv  Json  shopping.md  tasks.md  'Untitled 1.pdf'
katy@cis106:~/Documents$ paste shopping.md tasks.md
## Shopping      ## Tasks
1. Apples:       1. Do Laundry:
2. Meat:         2. Cook lunch:
3. Bread:        3. Clean room:
```



```
katy@cis106:~/Documents$ ls
Books  Csv  Json  shopping.md  tasks.md  'Untitled 1.pdf'
katy@cis106:~/Documents$ cd Books
katy@cis106:~/Documents/Books$ ls
bible.txt      great-expectations.txt  pride-and-prejudice.txt
dracula.txt    new.txt                  war-and-peace.txt
katy@cis106:~/Documents/Books$ wc -l dracula.txt
15870 dracula.txt
katy@cis106:~/Documents/Books$
```

```

katy@cis106: ~/Documents/Books
katy@cis106:~/Documents/Books$ ls
bible.txt      great-expectations.txt  pride-and-prejudice.txt
dracula.txt    new.txt                  war-and-peace.txt
katy@cis106:~/Documents/Books$ wc -w pride-and-prejudice.txt
124749 pride-and-prejudice.txt
katy@cis106:~/Documents/Books$ █

katy@cis106:~$ sort /etc/passwd
apt:x:105:65534::/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
avahi:x:115:121:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
cups-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
_flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
games:x:5:60:games:/usr/games:/usr/sbin/nologin
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
geoclue:x:122:127::/var/lib/geoclue:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
gnome-initial-setup:x:124:65534::/run/gnome-initial-setup:/bin/false
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
katy:x:1000:1000:Katiuska,,,:/home/katy:/bin/bash
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
root:x:0:0:root:/root:/bin/bash
rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
saned:x:117:123::/var/lib/saned:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
syslog:x:104:110::/home/syslog:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
tcpdump:x:108:115::/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin

```

Question # 4

```

katy@cis106:~/Documents/Csv$ ls
cars.csv cereal.csv contacts.csv country.csv film.csv
katy@cis106:~/Documents/Csv$ cat cereal.csv | tr ';' ','
name,mfr,type,calories,protein,fat,sodium,fiber,carbo,sugars,potass,vitamins,shelf,weight,cups,rating
String,Categorical,Categorical,Int,Int,Int,Int,Float,Float,Int,Int,Int,Float,Float,Float
100% Bran,N,C,70,4,1,130,10,5,6,280,25,3,1,0.33,68.402973
100% Natural Bran,Q,C,120,3,5,15,2,8,8,135,0,3,1,1,33.983679
All-Bran,K,C,70,4,1,260,9,7,5,320,25,3,1,0.33,59.425505
All-Bran with Extra Fiber,K,C,50,4,0,140,14,8,0,330,25,3,1,0.5,93.704912
Almond Delight,R,C,110,2,2,200,1,14,8,-1,25,3,1,0.75,34.384843
Apple Cinnamon Cheerios,G,C,110,2,2,180,1.5,10.5,10,70,25,1,1,0.75,29.509541
Apple Jacks,K,C,110,2,0,125,1,11,14,30,25,2,1,1,33.174094
Basic 4,G,C,130,3,2,210,2,18,8,100,25,3,1,33,0.75,37.038562
Bran Chex,R,C,90,2,1,200,4,15,6,125,25,1,1,0.67,49.120253
Bran Flakes,P,C,90,3,0,210,5,13,5,190,25,3,1,0.67,53.313813
Cap'n'n'Crunch,Q,C,120,1,2,220,0,12,12,35,25,2,1,0.75,18.042851
Cheerios,G,C,110,6,2,290,2,17,1,105,25,1,1,1.25,50.764999
Cinnamon Toast Crunch,G,C,120,1,3,210,0,13,9,45,25,2,1,0.75,19.823573
Clusters,G,C,110,3,2,140,2,13,7,105,25,3,1,0.5,40.400208
Cocoa Puffs,G,C,110,1,1,180,0,12,13,55,25,2,1,1,22.736446
Corn Chex,R,C,110,2,0,280,0,22,3,25,25,1,1,1,41.445019
Corn Flakes,K,C,100,2,0,290,1,21,2,35,25,1,1,1,45.863324
Corn Pops,K,C,110,1,0,90,1,13,12,20,25,2,1,1,35.782791
Count Chocula,G,C,110,1,1,180,0,12,13,65,25,2,1,1,22.396513
Cracklin' Oat Bran,K,C,110,3,3,140,4,10,7,160,25,3,1,0.5,40.448772
Cream of Wheat (Quick),N,H,100,3,0,80,1,21,0,-1,0,2,1,1,64.533816
Crispix,K,C,110,2,0,220,1,21,3,30,25,3,1,1,46.895644
Crispy Wheat & Raisins,G,C,100,2,1,140,2,11,10,120,25,3,1,0.75,36.176196
Double Chex,R,C,100,2,0,190,1,18,5,80,25,3,1,0.75,44.330856
Froot Loops,K,C,110,2,1,125,1,11,13,30,25,2,1,1,32.207582
Frosted Flakes,K,C,110,1,0,200,1,14,11,25,25,1,1,0.75,31.435973
Frosted Mini-Wheats,K,C,100,3,0,0,3,14,7,100,25,2,1,0.8,58.345141
Fruit & Fibre Dates, Walnuts, and Oats,P,C,120,3,2,160,5,12,10,200,25,3,1.25,0.67,40.917047
Fruitful Bran,K,C,120,3,0,240,5,14,12,190,25,3,1,33,0.67,41.015492
Fruity Pebbles,P,C,110,1,1,135,0,13,12,25,25,2,1,0.75,28.025765
Golden Crisp,P,C,100,2,0,45,0,11,15,40,25,1,1,0.88,35.252444
Golden Grahams,G,C,110,1,1,280,0,15,9,45,25,2,1,0.75,23.804043
Grape Nuts Flakes,P,C,100,3,1,140,3,15,5,85,25,3,1,0.88,52.076897
Grape-Nuts,P,C,110,3,0,170,3,17,3,90,25,3,1,0.25,53.371007
Great Grains Pecan,P,C,120,3,3,75,3,13,4,100,25,3,1,0.33,45.811716
Honey Graham Ohs,Q,C,120,1,2,220,1,12,11,45,25,2,1,1,21.871292
Honey Nut Cheerios,G,C,110,3,1,250,1.5,11.5,10,90,25,1,1,0.75,31.072217
Honey-comb,P,C,110,1,0,180,0,14,11,35,25,1,1,1,33,28.742414
Just Right Crunchy Nuggets,K,C,110,2,1,170,1,17,6,60,100,3,1,1,36.523683
Just Right Fruit & Nut,K,C,140,3,1,170,2,20,9,95,100,3,1,3,0.75,36.471512

```

```

katy@cis106: ~/Documents/Books
katy@cis106:~/Documents/Books$ grep -i 'love' dracula.txt
know her is to love her. I long to go through the crowded streets of
also that there is a chapel of old times. We Transylvanian nobles love
battlements and casements. I love the shade and the shadow, and would
thought and many blushes, her ill-spelt love-letter, and writing in my
at the lovely view to east and south, and unthinking of and uncaring for
"You yourself never loved; you never love!" On this the other women
"Yes, I too can love; you yourselves can tell it from the past. Is it
to speak more. Oh, Mina, couldn't you guess? I love him. I am blushing
as I write, for although I think he loves me, he has not told me so in
words. But oh, Mina, I love him; I love him; I love him! There, that
I could love him in time; and when I shook my head his hands trembled,
loves you honestly, going away and looking all broken-hearted, and to
what I would do if I were a man and wanted to make a girl love me. No, I
began pouring out a perfect torrent of love-making, laying his very
manly fervour that I could have loved him for if I had been free:--
" 'Yes, there is some one I love, though he has not told me yet that he

```



```

katy@cis106:~/Documents/Books$ ls
bible.txt      great-expectations.txt  pride-and-prejudice.txt
dracula.txt    new.txt                  war-and-peace.txt
katy@cis106:~/Documents/Books$ grep -Ewn 'love|hate' pride-and-prejudice.txt
222:      that he _may_ fall in love with one of them, and therefore you
391:      anything. Lydia, my love, though you _are_ the youngest, I dare
417:      be fond of dancing was a certain step towards falling in love;
492:      "Come, Darcy," said he, "I must have you dance. I hate to see you
848:      first, and was in a way to be very much in love; but she
864:      who have heart enough to be really in love without encouragement.
885:      secure of him, there will be leisure for falling in love as
1105:     love, from love to matrimony, in a moment. I knew you would be
1208:     Well, Jane, make haste and tell us; make haste, my love."
1781:     a gentleman at my brother Gardiner's in town so much in love with her,
1790:     love!"
1792:     "I have been used to consider poetry as the _food_ of love," said
1795:     "Of a fine, stout, healthy love it may. Everything nourishes what
2280:     dearly love a laugh."
2328:     "And _your_ defect is to hate everybody."
2438:     bit of fish to be got to-day. Lydia, my love, ring the bell—I
2478:     I hate such false friends. Why could he not keep on quarreling
3514:     To find a man agreeable whom one is determined to hate! Do not
4198:     to your wish of increasing my love by suspense, according to the
4230:     successful love; for Mrs. Bennet, having dawdled about in the
4570:     brother is in love with you, and wants him to marry Miss Darcy.
4579:     much love in Mr. Darcy for herself, she would have ordered her
4590:     persuade him that, instead of being in love with you, he is very
4591:     much in love with her friend."
4679:     in the lane. But little had she dared to hope that so much love
4734:     love.
4787:     The possibility of Mr. Collins's fancying himself in love with
4979:     love-making relieved them from a great deal of his company. The
5108:     not. There are few people whom I really love, and still fewer of
5184:     me; no wonder if they love her better. But, whatever may be their
5212:     one day, "your sister is crossed in love, I find. I congratulate
5214:     in love now and then. It is something to think of, and it gives
5249:     After a week spent in professions of love and schemes of
5306:     easily falls in love with a pretty girl for a few weeks, and when
5314:     he was violently in love with only a few days before."
5316:     "But that expression of 'violently in love' is so hackneyed, so
5320:     was _Mr. Bingley's love?"
5328:     the very essence of love?"
5330:     "Oh, yes!—of that kind of love which I suppose him to have felt.
5385:     them, from what she saw, to be very seriously in love, their
5422:     "You are too sensible a girl, Lizzy, to fall in love merely

katy@cis106:~/Documents/Books$ grep -niw '^love' dracula.txt
6089:love her. One, two, three, all open their veins for her, besides one old
6244:love and pride, seen you grow up. Now I want you to make your home here
6274:love me, and he loves me, and I love you with all the moods and tenses
7298:love her. Oh, Madam Mina, by that love, I implore you, help me. It is
10471:love and from the good, good wishes of those other strong men.
11577:love Mina, I know. Oh, do something to save her. It cannot have gone too
katy@cis106:~/Documents/Books$ █

```

```
katy@cis106:~/Documents/Books$ grep -ni '^l[aeiou][a-z][aeiou]\b' dracula.txt
120:late and would start as near the correct time as possible. The
397:late-lying snow. Sometimes, as the road was cut through the pine woods
871:like the rest, so that no man stops if he see me, or pause in his
994:live in a new house would kill me. A house cannot be made habitable in a
1523:like pale sapphires. I seemed somehow to know her face, and to know it
1552:like an animal, till I could see in the moonlight the moisture shining
1817:like the tiniest grains of dust, and they whirled round and gathered in
2661:like the sea, if only it be their own. The whole thing be only lies. Now
3172:like a grey pall, and left available to men only the organ of hearing,
3527:like a distant gun. Strangely enough, Lucy did not wake; but she got up
3533:life.
4322:life, and sleep well. You will be glad to know that I have quite given
4385:life. Our bird when he found the cage open would not fly, so all our
4579:late on to-morrow, for it is likely that I may have to return here that
4758:lose an hour. I hold over telegram to Holmwood till have seen you."
4909:life is hers, and I would give the last drop of blood in my body for
5265:late dinner; went my rounds--all well; and set this down whilst waiting
5485:life as a diver coming up through a great press of water. Since,
5742:late for my physical good, and then the prolonged strain of Lucy's
5889:late? I knew that minutes, even seconds of delay, might mean hours of
6089:love her. One, two, three, all open their veins for her, besides one old
6244:love and pride, seen you grow up. Now I want you to make your home here
6274:love me, and he loves me, and I love you with all the moods and tenses
7116:like the rain on the ropes, they brace us up, until perhaps the strain
7178:life-work, I say sadly and without hope,
7298:love her. Oh, Madam Mina, by that love, I implore you, help me. It is
7338:late that I feel I cannot bear more just at present.
7479:line. I, who have read your so sweet letter to poor Lucy of your
7585:life on it. It may be worse for others; but for him and you there is no
9123:like in the matter. God forgive me if I do wrong! There are terrible
9427:like a brother, will you not, for all our lives--for dear Lucy's sake?"
9564:life. At times I held the belief so strongly that I actually tried to
9685:like the bee when he sting once. He is only stronger; and being
10293:like a bank of earth set with fireflies. The dogs dashed on, but at the
10471:love and from the good, good wishes of those other strong men.
10968:like to admit it; so I harked back to what he had denied:--
10980:life, what is it after all? When you've got all you require, and you
10984:life!"
11577:love Mina, I know. Oh, do something to save her. It cannot have gone too
11867:live, though death would seem a boon unspeakable. You must fight Death
12250:lose any time in examining the chests. With the tools which we had
12635:like, with such terrible memories to ground them in. She has not been so
12672:like a speck rather than a disc of light. She said to me hurriedly:--
12708:like a trip hammer, for I felt that some crisis was at hand. Gradually
```

Question 5

```
katy@cis106:~/Documents/Csv$ awk -F ';' '{ print $1, $NF }' cars.csv
```

```
Car Origin
STRING CAT
Chevrolet Chevelle Malibu US
Buick Skylark 320 US
Plymouth Satellite US
AMC Rebel SST US
Ford Torino US
Ford Galaxie 500 US
Chevrolet Impala US
Plymouth Fury iii US
Pontiac Catalina US
AMC Ambassador DPL US
Citroen DS-21 Pallas Europe
Chevrolet Chevelle Concours (sw) US
Ford Torino (sw) US
Plymouth Satellite (sw) US
AMC Rebel SST (sw) US
Dodge Challenger SE US
Plymouth 'Cuda 340 US
Ford Mustang Boss 302 US
Chevrolet Monte Carlo US
Buick Estate Wagon (sw) US
Toyota Corolla Mark ii Japan
Plymouth Duster US
AMC Hornet US
```

```
katy@cis106:~/Documents/Csv$ awk -F ';' '{ print $1,"made in", $NF }' cars.csv
```

```
Car made in Origin
STRING made in CAT
Chevrolet Chevelle Malibu made in US
Buick Skylark 320 made in US
Plymouth Satellite made in US
AMC Rebel SST made in US
Ford Torino made in US
Ford Galaxie 500 made in US
Chevrolet Impala made in US
Plymouth Fury iii made in US
Pontiac Catalina made in US
AMC Ambassador DPL made in US
Citroen DS-21 Pallas made in Europe
Chevrolet Chevelle Concours (sw) made in US
Ford Torino (sw) made in US
Plymouth Satellite (sw) made in US
AMC Rebel SST (sw) made in US
Dodge Challenger SE made in US
Plymouth 'Cuda 340 made in US
Ford Mustang Boss 302 made in US
Chevrolet Monte Carlo made in US
Buick Estate Wagon (sw) made in US
Toyota Corolla Mark ii made in Japan
Plymouth Duster made in US
AMC Hornet made in US
Ford Maverick made in US
Datsun PL510 made in Japan
Volkswagen 1131 Deluxe Sedan made in Europe
Peugeot 504 made in Europe
Audi 100 LS made in Europe
Saab 99e made in Europe
BMW 2002 made in Europe
AMC Gremlin made in US
Ford F250 made in US
Chevy C20 made in US
Dodge D200 made in US
Hi 1200D made in US
Datsun PL510 made in Japan
Chevrolet Vega 2300 made in US
Toyota Corolla made in Japan
Ford Pinto made in US
Volkswagen Super Beetle 117 made in Europe
AMC Gremlin made in US
Plymouth Satellite Custom made in US
```

```
katy@cis106:~/Documents/Csv$ awk -F ';' '{ print "The", $1,"has",$3,"cylinders and is made in", $NF}' cars.csv
The Car has Cylinders cylinders and is made in Origin
The STRING has INT cylinders and is made in CAT
The Chevrolet Chevelle Malibu has 8 cylinders and is made in US
The Buick Skylark 320 has 8 cylinders and is made in US
The Plymouth Satellite has 8 cylinders and is made in US
The AMC Rebel SST has 8 cylinders and is made in US
The Ford Torino has 8 cylinders and is made in US
The Ford Galaxie 500 has 8 cylinders and is made in US
The Chevrolet Impala has 8 cylinders and is made in US
The Plymouth Fury iii has 8 cylinders and is made in US
The Pontiac Catalina has 8 cylinders and is made in US
The AMC Ambassador DPL has 8 cylinders and is made in US
The Citroen DS-21 Pallas has 4 cylinders and is made in Europe
The Chevrolet Chevelle Concours (sw) has 8 cylinders and is made in US
```

```
katy@cis106:~/Documents/Csv$ awk '(NR>2)' cars.csv
Chevrolet Chevelle Malibu;18.0;8;307.0;130.0;3504.;12.0;70;US
Buick Skylark 320;15.0;8;350.0;165.0;3693.;11.5;70;US
Plymouth Satellite;18.0;8;318.0;150.0;3436.;11.0;70;US
AMC Rebel SST;16.0;8;304.0;150.0;3433.;12.0;70;US
Ford Torino;17.0;8;302.0;140.0;3449.;10.5;70;US
Ford Galaxie 500;15.0;8;429.0;198.0;4341.;10.0;70;US
Chevrolet Impala;14.0;8;454.0;220.0;4354.;9.0;70;US
Plymouth Fury iii;14.0;8;440.0;215.0;4312.;8.5;70;US
Pontiac Catalina;14.0;8;455.0;225.0;4425.;10.0;70;US
AMC Ambassador DPL;15.0;8;390.0;190.0;3850.;8.5;70;US
Citroen DS-21 Pallas;0;4;133.0;115.0;3090.;17.5;70;Europe
Chevrolet Chevelle Concours (sw);0;8;350.0;165.0;4142.;11.5;70;US
Ford Torino (sw);0;8;351.0;153.0;4034.;11.0;70;US
Plymouth Satellite (sw);0;8;383.0;175.0;4166.;10.5;70;US
AMC Rebel SST (sw);0;8;360.0;175.0;3850.;11.0;70;US
Dodge Challenger SE;15.0;8;383.0;170.0;3563.;10.0;70;US
Plymouth 'Cuda 340;14.0;8;340.0;160.0;3609.;8.0;70;US
Ford Mustang Boss 302;0;8;302.0;140.0;3353.;8.0;70;US
Chevrolet Monte Carlo;15.0;8;400.0;150.0;3761.;9.5;70;US
Buick Estate Wagon (sw);14.0;8;455.0;225.0;3086.;10.0;70;US
Toyota Corolla Mark ii;24.0;4;113.0;95.00;2372.;15.0;70;Japan
Plymouth Duster;22.0;6;198.0;95.00;2833.;15.5;70;US
AMC Hornet;18.0;6;199.0;97.00;2774.;15.5;70;US
Ford Maverick;21.0;6;200.0;85.00;2587.;16.0;70;US
Datsun PL510;27.0;4;97.00;88.00;2130.;14.5;70;Japan
Volkswagen 1131 Deluxe Sedan;26.0;4;97.00;46.00;1835.;20.5;70;Europe
Peugeot 504;25.0;4;110.0;87.00;2672.;17.5;70;Europe
Audi 100 LS;24.0;4;107.0;90.00;2430.;14.5;70;Europe
Saab 99e;25.0;4;104.0;95.00;2375.;17.5;70;Europe
BMW 2002;26.0;4;121.0;113.0;2234.;12.5;70;Europe
AMC Gremlin;21.0;6;199.0;90.00;2648.;15.0;70;US
Ford F250;10.0;8;360.0;215.0;4615.;14.0;70;US
Chevy C20;10.0;8;307.0;200.0;4376.;15.0;70;US
```

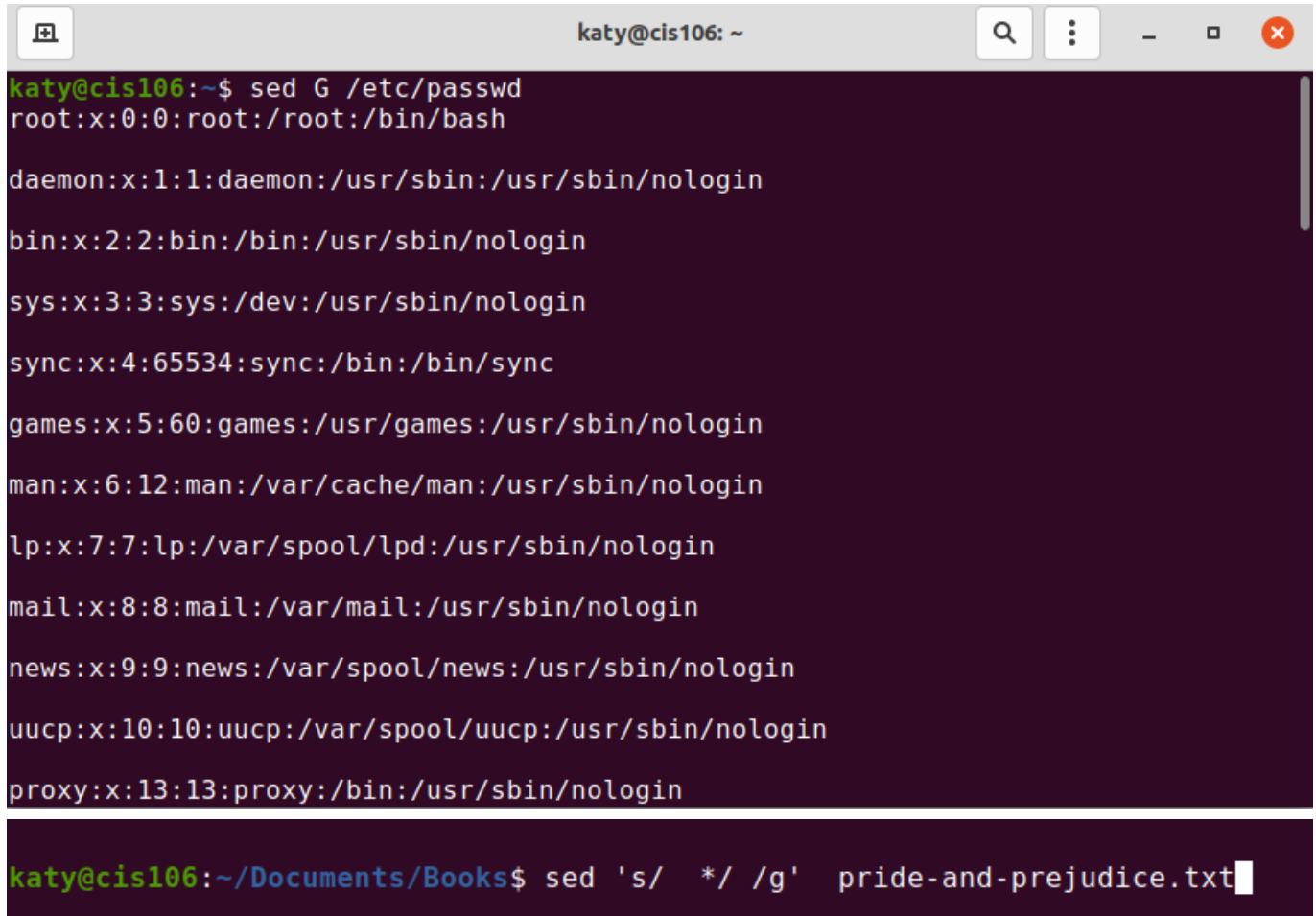


```
katy@cisl06:~/Documents/Csv$ awk -F ';' '{ print toupper($1)}' cars.csv
CAR
STRING
CHEVROLET CHEVELLE MALIBU
BUICK SKYLARK 320
PLYMOUTH SATELLITE
AMC REBEL SST
FORD TORINO
FORD GALAXIE 500
CHEVROLET IMPALA
PLYMOUTH FURY III
PONTIAC CATALINA
AMC AMBASSADOR DPL
CITROEN DS-21 PALLAS
CHEVROLET CHEVELLE CONCOURS (SW)
FORD TORINO (SW)
PLYMOUTH SATELLITE (SW)
AMC REBEL SST (SW)
DODGE CHALLENGER SE
PLYMOUTH 'CUDA 340
FORD MUSTANG BOSS 302
CHEVROLET MONTE CARLO
BUICK ESTATE WAGON (SW)
TOYOTA COROLLA MARK II
PLYMOUTH DUSTER
AMC HORNET
FORD MAVERICK
DATSUN PL510
VOLKSWAGEN 1131 DELUXE SEDAN
PEUGEOT 504
AUDI 100 LS
SAAB 99E
BMW 2002
AMC GREMLIN
FORD F250
CHEVY C20
DODGE D200
```

```

katy@cis106:~/Documents/Books$ sed 's/Dracula/Alucard/' dracula.txt | grep 'Alucard' -n
1:The Project Gutenberg eBook of Alucard, by Bram Stoker
11:Title: Alucard
144:Castle Alucard, as there are no maps of this country as yet to compare
146:town named by Count Alucard, is a fairly well-known place. I shall enter
210:Count Alucard had directed me to go to the Golden Krone Hotel, which I
242:was all he knew. When I asked him if he knew Count Alucard, and could
684:"Count Alucard?" He bowed in a courtly way as he replied:--
686:"I am Alucard; and I bid you welcome, Mr. Harker, to my house. Come in;
1035:Alucard, jumping to his feet, said:--
1162:Alucard, as it may help me to understand. To-night he may talk of
1211:the Turk on his own ground? This was a Alucard indeed! Woe was it that
1213:Turk and brought the shame of slavery on them! Was it not this Alucard,
1222:Hungarian yoke, we of the Alucard blood were amongst their leaders, for
1224:Szekelys--and the Alucard as their heart's blood, their brains, and
1313:Alucard was speaking, there was that in his eyes and in his bearing
1994:Alucard." I suspected him, and determined to test his sincerity.
2050:to my own room. The last I saw of Count Alucard was his kissing his hand
2931:had just been received. It is only a line dated from Castle Alucard,
9178:terrible events at Whitby when Count Alucard landed, so I shall look
9614:had found in his absence: that the house which Alucard had bought was
9790:sisters in the castle of Alucard. He become so small--we ourselves saw
9826:has been. He must, indeed, have been that Voivode Alucard who won his
9832:grave, and are even now arrayed against us. The Alucards were, says
9838:'pokol'--Satan and hell; and in one manuscript this very Alucard is
10782:arranged by Alucard. The house looked as though it had been long
12870:believe in it. Even my own terrible experiences in Castle Alucard seem
12897:discover on what boat and whither bound Count Alucard made his escape:--
13807:Alucard we should go by Galatz, or at any rate through Bucharest, so I
14222:marked for one Count Alucard. Sure enough the matter was one ready to
14314:_Ground of inquiry._--Count Alucard's problem is to get back to his own
14418:close to Alucard's castle as can be got by water.
14481:over the Borgo, and find our way to the Castle of Alucard. Here, Madam
15115:awful work, I laid in Alucard's tomb some of the Wafer, and so banished
15170:clear line of Alucard's castle cut the sky; for we were so deep under
15354:The Castle of Alucard now stood out against the red sky, and every stone

```



A terminal window titled 'katy@cis106: ~' with search, menu, and window control icons in the title bar. The terminal shows the command `sed G /etc/passwd` being executed, which displays the contents of the `/etc/passwd` file. The output lists system users and regular users, each on a new line. At the bottom, the user has entered the command `sed 's/ */ /g' pride-and-prejudice.txt`.

```

katy@cis106:~$ sed G /etc/passwd
root:x:0:0:root:/root:/bin/bash

daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin

bin:x:2:2:bin:/bin:/usr/sbin/nologin

sys:x:3:3:sys:/dev:/usr/sbin/nologin

sync:x:4:65534:sync:/bin:/bin/sync

games:x:5:60:games:/usr/games:/usr/sbin/nologin

man:x:6:12:man:/var/cache/man:/usr/sbin/nologin

lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin

mail:x:8:8:mail:/var/mail:/usr/sbin/nologin

news:x:9:9:news:/var/spool/news:/usr/sbin/nologin

uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin

proxy:x:13:13:proxy:/bin:/usr/sbin/nologin

katy@cis106:~/Documents/Books$ sed 's/ */ /g' pride-and-prejudice.txt

```

Question 6

```

katy@cis106:~$ grep -c '/bin/bash' /etc/passwd > userbinbash.txt
katy@cis106:~$ ls
2tutorial.txt  lab4files          lab5-imgs      practicels      todolist.txt
cis106         lab4files.zip      lab5-video    Public          userbinbash.txt
Desktop       lab-5              lab6           share           users.txt
Documents     lab5-audio         lab6-q5       snap            Videos
Downloads     lab5ChallengeQuestion Music          Steam           website
ip2.txt       lab5-docs          Pictures       Templates
katy@cis106:~$ cat userbinbash.txt
2

katy@cis106:~$ grep -c '/sbin/nologin' /etc/passwd > nologinuser.txt
katy@cis106:~$ ls
2tutorial.txt  Documents  lab4files      lab5-audio      lab5-imgs      lab6-q5
cis106         Downloads  lab4files.zip  lab5ChallengeQuestion lab5-video    Music
Desktop       ip2.txt    lab-5          lab5-docs       lab6           nologinuser.txt
katy@cis106:~$ cat nologinuser.txt
39
katy@cis106:~$ █

katy@cis106:~/Documents/Csv$ grep -ci 'ford' cars.csv > fordcars.txt
katy@cis106:~/Documents/Csv$ ls
cars.csv  cereal.csv  contacts.csv  country.csv  film.csv  fordcars.txt
katy@cis106:~/Documents/Csv$ cat fordcars.txt
53
katy@cis106:~/Documents/Csv$ █

katy@cis106:~/Documents/Books$ grep -iowc '[a-z][a-z][a-z][a-z]' bible.txt > biblepattern.txt
katy@cis106:~/Documents/Books$ ls
biblepattern.txt  bible.txt  dracula.txt  great-expectations.txt  new.txt  pride-and-prejudice.txt  war-and-peace.txt
katy@cis106:~/Documents/Books$ cat biblepattern.txt
30309
katy@cis106:~/Documents/Books$ █

```

challenge question

```
katy@cis106:~/Documents/Csv$ cut -d ';' -f1 cereal.csv | awk 'NR > 2 { print }'
100% Bran
100% Natural Bran
All-Bran
All-Bran with Extra Fiber
Almond Delight
Apple Cinnamon Cheerios
Apple Jacks
Basic 4
Bran Chex
Bran Flakes
Cap'n'Crunch
Cheerios
Cinnamon Toast Crunch
Clusters
Cocoa Puffs
Corn Chex
Corn Flakes
Corn Pops
Count Chocula
Cracklin' Oat Bran
Cream of Wheat (Quick)
Crispix
Crispy Wheat & Raisins
Double Chex
Froot Loops
Frosted Flakes
Frosted Mini-Wheats
Fruit & Fibre Dates, Walnuts, and Oats
Fruitful Bran
Fruity Pebbles
Golden Crisp
```

```
katy@cis106:~/Documents/Csv$ cut -d ';' -f1 cereal.csv | awk 'NR > 2 { print }'| sort -o cereal-sorted.csv
katy@cis106:~/Documents/Csv$ ls
cars.csv  cereal.csv  cereal-sorted.csv  contacts.csv  country.csv  film.csv  fordcars.txt
katy@cis106:~/Documents/Csv$ cat cereal-sorted.csv
100% Bran
100% Natural Bran
All-Bran
All-Bran with Extra Fiber
Almond Delight
Apple Cinnamon Cheerios
Apple Jacks
Basic 4
Bran Chex
Bran Flakes
Cap'n'Crunch
Cheerios
Cinnamon Toast Crunch
Clusters
Cocoa Puffs
Corn Chex
Corn Flakes
Corn Pops
Count Chocula
Cracklin' Oat Bran
```



```

katy@cis106:~/Documents/Csv$ cut -d ';' --output-delimiter=' => ' -f1,4 cereal.csv | awk 'NR > 2 {print}'
100% Bran => 70
100% Natural Bran => 120
All-Bran => 70
All-Bran with Extra Fiber => 50
Almond Delight => 110
Apple Cinnamon Cheerios => 110
Apple Jacks => 110
Basic 4 => 130
Bran Chex => 90
Bran Flakes => 90
Cap'n'Crunch => 120
Cheerios => 110
Cinnamon Toast Crunch => 120
Clusters => 110
Cocoa Puffs => 110
Corn Chex => 110
Corn Flakes => 100
Corn Pops => 110
Count Chocula => 110
Cracklin' Oat Bran => 110
Cream of Wheat (Quick) => 100
Crispix => 110
Crispy Wheat & Raisins => 100
Double Chex => 100
Froot Loops => 110
Frosted Flakes => 110
Frosted Mini-Wheats => 100
Fruit & Fibre Dates, Walnuts, and Oats => 120
Fruitful Bran => 120
Fruity Pebbles => 110
Golden Crisp => 100
Golden Grahams => 110
Grape Nuts Flakes => 100
Grape-Nuts => 110
Great Grains Pecan => 120
Honey Graham Ohs => 120
Honey Nut Cheerios => 110
Honey-comb => 110
Just Right Crunchy Nuggets => 110
Just Right Fruit & Nut => 140
Kix => 110
Life => 100
Lucky Charms => 110
Maypo => 100

```

```

katy@cis106:~/Documents/Csv$ cut -d ';' --output-delimiter=' => ' -f1,4 cereal.csv | awk 'NR > 2 {print}'
k Katy@cis106:~/Documents/Csv$ cut -d ';' --output-delimiter=' => ' -f1,4 cereal.csv | awk 'NR > 2 {print}'
100% Bran , 70
100% Natural Bran , 120
All-Bran , 70
All-Bran with Extra Fiber , 50
Almond Delight , 110
Apple Cinnamon Cheerios , 110
Apple Jacks , 110
Basic 4 , 130
Bran Chex , 90
Bran Flakes , 90
Cap'n'Crunch , 120
Cheerios , 110
Cinnamon Toast Crunch , 120
Clusters , 110
Cocoa Puffs , 110
Corn Chex , 110
Corn Flakes , 100
Corn Pops , 110
Count Chocula , 110
Cracklin' Oat Bran , 110
Cream of Wheat (Quick) , 100
Crispix , 110
Crispy Wheat & Raisins , 100
Double Chex , 100
Froot Loops , 110
Frosted Flakes , 110
Frosted Mini-Wheats , 100
Fruit & Fibre Dates, Walnuts, and Oats , 120
Fruitful Bran , 120
Fruity Pebbles , 110
Golden Crisp , 100
Golden Grahams , 110
Grape Nuts Flakes , 100
Grape-Nuts , 110
Great Grains Pecan , 120
Honey Graham Ohs , 120
Honey Nut Cheerios , 110
Honey-comb , 110
Just Right Crunchy Nuggets , 110
Just Right Fruit & Nut , 140
Kix , 110
Life , 100
Lucky Charms , 110
Maypo , 100

```