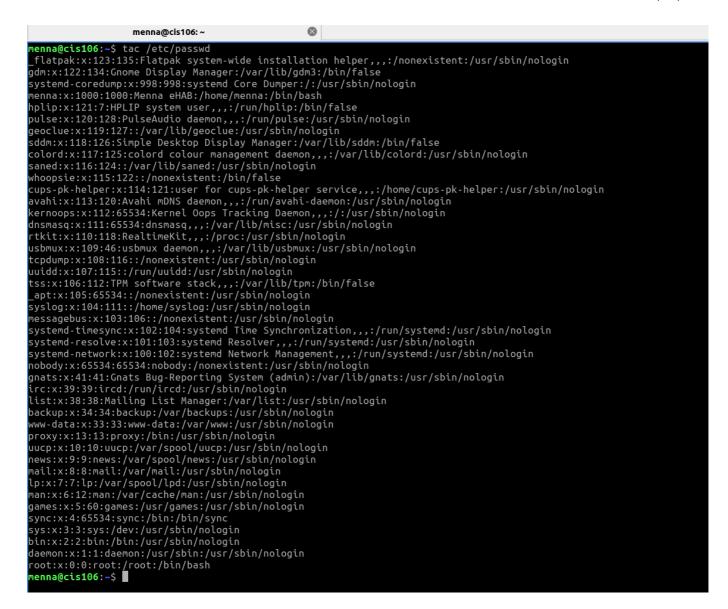
Lab7: Handling Files

Question 1

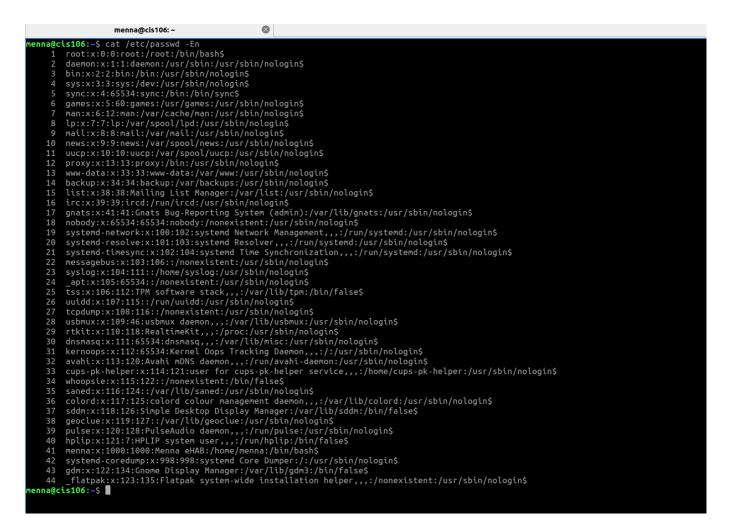
Q1.1

```
menna@cis106: -
    menna@cis106:~$ 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/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
games:x:o::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:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp:/usr/sbin/nologin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uucp/sbin/spool/uuc
   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:/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
    syslog:x:104:111::/home/syslog:/usr/sbin/nologin
_apt:x:105:65534::/nonexistent:/usr/sbin/nologin
 tss:x:106:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:115::/run/uuidd:/usr/sbin/nologin
tcpdump:x:108:116::/nonexistent:/usr/sbin/nologin
 tcpdump:x:108:116::/nonextstent:/usr/sbtn/nologtn
usbmux:x:109:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:110:118:RealtimeKit,,,:/proc:/usr/sbin/nologin
dnsmasq:x:111:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
kernoops:x:112:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologin
avahi:x:113:120:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
    cups-pk-helper:x:114:121:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
    whoopsie:x:115:122::/nonexistent:/bin/false
    saned:x:116:124::/var/lib/saned:/usr/sbin/nologin
   colord:x:117:125:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
sddm:x:118:126:Simple Desktop Display Manager:/var/lib/sddm:/bin/false
sddm:x:118:126:Simple Desktop Display Manager:/var/lib/sddm:/bin/false
geoclue:x:119:127::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:120:128:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
hplip:x:121:7:HPLIP system user,,,:/run/hplip:/bin/false
menna:x:1000:1000:Menna eHAB:/home/menna:/bin/bash
systemd-coredump:x:998:998:systemd Core Dumper:/:/usr/sbin/nologin
gdm:x:122:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
_flatpak:x:123:135:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
menna@cis106:~$
```

Q1.2



Q1.3

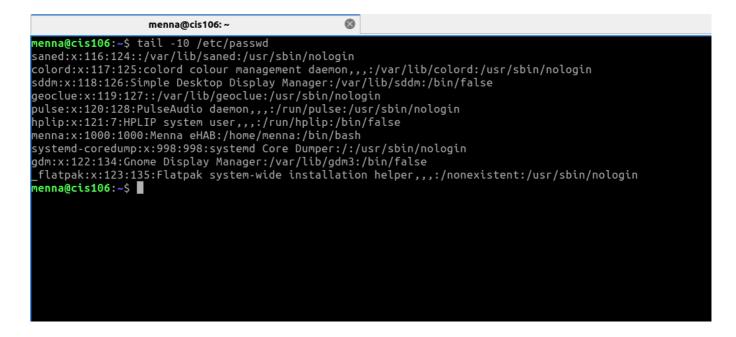


Q1.4

```
menna@cis106:~

menna@cis106:~$ 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
menna@cis106:~$
```

Q1.5

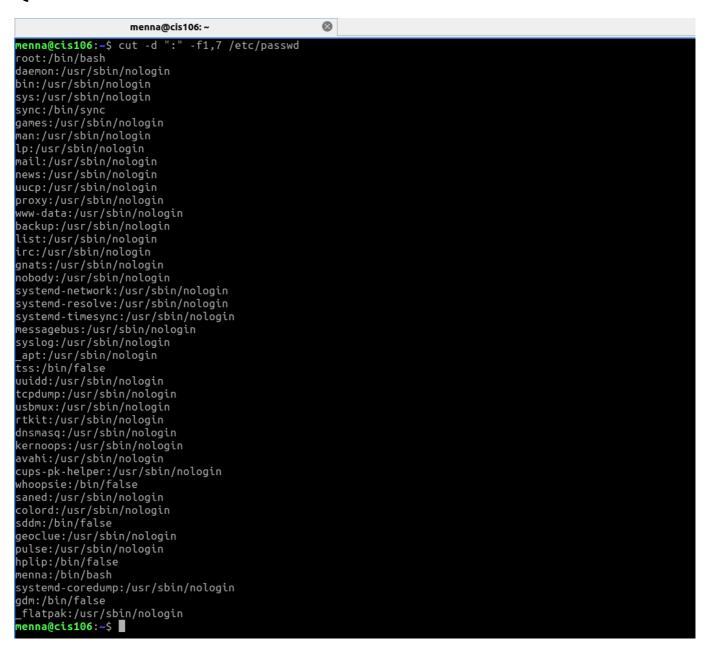


Question 2

Q2.1

```
menna@cis106: ~
nenna@cis106:~$ cut -d ":" -f1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lρ
mail
news
uucp
ргоху
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
systemd-timesync
nessagebus
syslog
_apt
- .
tss
uuidd
tcpdump
usbmux
rtkit
dnsmasq
kernoops
avahi
cups-pk-helper
whoopsie
saned
colord
sddm
geoclue
pulse
hplip
menna
systemd-coredump
gdm
_flatpak
 enna@cis106:~$
```

Q2.2



Q2.3

```
\otimes
                                                                                            menna@cis106: ~
     menna@cis106:~$ cut -d ":" -f1,7 --output-delimiter=' =.
root =. /bin/bash
                                                                                                                                                                                                                                                                                                         /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
list =. /usr/sbin/nologin
irc =. /usr/sbin/nologin
gnats =. /usr/sbin/nologin
nobody =. /usr/sbin/nologin
   nobody =. /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
messagebus =. /usr/sbin/nologin syslog =. /usr/sbin/nologin apt =. /usr/sbin/nologin tss =. /bin/false uuidd =. /usr/sbin/nologin tcpdump =. /usr/sbin/nologin usbmux =. /usr/sbin/nologin rtkit =. /usr/sbin/nologin dnsmasq =. /usr/sbin/nologin kernoops =. /usr/sbin/nologin avahi =. /usr/sbin/nologin cups-pk-helper =. /usr/sbin/nologin
avahi =. /usr/sbin/nologin
cups-pk-helper =. /usr/sbin/nologin
whoopsie =. /bin/false
saned =. /usr/sbin/nologin
colord =. /usr/sbin/nologin
sddm =. /bin/false
geoclue =. /usr/sbin/nologin
pulse =. /usr/sbin/nologin
hplip =. /bin/false
menna =. /bin/false
    systemd-coredump =. /usr/sbin/nologin
  gdm =. /bin/false
_flatpak =. /usr/sbin/nologin
menna@cis106:~$
```

Q2.4

```
menna@cis106: ~
                                                                                                                  complement -s -f3 /etc/passwd
    oot: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
sync:x:0554:sync:/btn:/btn/sync
games:x:60: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
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:/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-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:111::/home/syslog:/usr/sbin/nologin
_apt:x:65534::/nonexistent:/usr/sbin/nologin
tss:x:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:115::/run/uuidd:/usr/sbin/nologin
tcpdump:x:116::/nonexistent:/usr/sbin/nologin
usbmux:x:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:118:RealtimeKit,,,:/proc:/usr/sbin/nologin
dnsmasq:x:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
kernoops:x:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologin
avahi:x:120:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
cups-pk-helper:x:121:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
whoopsie:x:122::/nonexistent:/bin/false
saned:x:124::/var/lib/saned:/usr/sbin/nologin
    nessagebus:x:106::/nonexistent:/usr/sbin/nologin
 whoopste:x:122::/honextsent:/btin/fatse
saned:x:124::/var/lib/saned:/usr/sbin/nologin
colord:x:125:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
sddm:x:126:Simple Desktop Display Manager:/var/lib/sddm:/bin/false
geoclue:x:127::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:128:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
hplip:x:7:HPLIP system user,,,:/run/hplip:/bin/false
menna:x:1000:Menna eHAB:/home/menna:/bin/bash
systemd-coredumo:x:998:systemd Core Dumner://usr/shin/nologin
 systemd-coredump:x:998:systemd Core Dumper:/:/usr/sbin/nologin
gdm:x:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
_flatpak:x:135:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
    nenna@cis106:~$
```

Question 3

Q3.1

```
menna@cis106:~ S

menna@cis106:-$ curl -s https://cis106.com/assets/shopping.md -o shopping.md
menna@cis106:-$ curl -s https://cis106.com/assets/tasks.md -o tasks.md
menna@cis106:-$ ls
challenge-lab6 cis106 Desktop Documents Downloads 'html question ' lab6 lab6-q5 Music Pictures Public shopping.md tasks.md Templates Videos
menna@cis106:-$ paste shopping.md tasks.md
## Shopping ## Tasks

1. Apples: 1. Do Laundry:
2. Meat: 2. Cook lunch:
3. Slean room:
menna@cis106:-$ 

I Clean room:
```

Q3.2

```
menna@cis106:~$ wc Documents/Books/dracula.txt
15860 164386 881251 Documents/Books/dracula.txt
menna@cis106:~$ wc -l Documents/Books/dracula.txt
15860 Documents/Books/dracula.txt
menna@cis106:~$
```

Q3.3

```
menna@cis106:~$ wc -w Documents/Books/pride-and-prejudice.txt
124749 Documents/Books/pride-and-prejudice.txt
menna@cis106:~$ ■
```

Q3.4

```
penna@cis106:-5 sort /etc/passwd
apth:x105:6534::/nonexistent:/usr/sbin/nologin
avahix:x113:120:xvahi mDNS demon,,;/run/avahi-demon:/usr/sbin/nologin
backup:x3:43:4backup:/Var/backups:/usr/sbin/nologin
cloord:x1:7:125:colord:colour management demon,,;/var/lib/colord:/usr/sbin/nologin
cups-pk-helper:x114:121:user for cups-pk-helper service,,;/home/cups-pk-helper:/usr/sbin/nologin
dnsmasq:x:111:65534:dnsmasq,,;/var/lib/misc:/usr/sbin/nologin
dnsmasq:x:111:65534:dnsmasq,;/var/lib/misc:/usr/sbin/nologin
flatpakx:x123:135:flatpak system-wide installation helper,,;/nonexistent:/usr/sbin/nologin
games:x15:66:games:/usr/pames:/usr/sbin/nologin
games:x15:66:games:/usr/pames:/usr/sbin/nologin
games:x15:66:games:/usr/lib/geclue:/usr/sbin/nologin
games:x15:67:40:flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flate;/flat
```

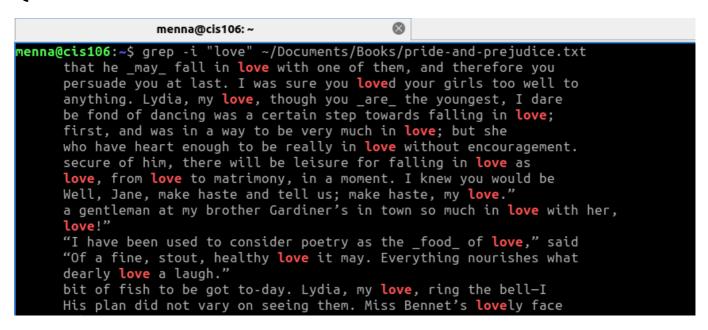
Question 4

Q4.1

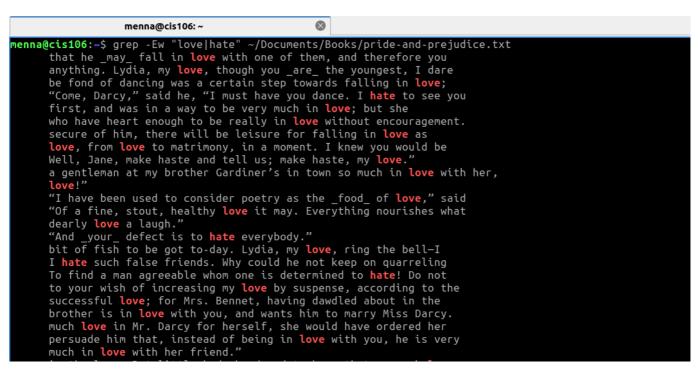
```
menna@cis106:~

menna@cis106:~$ cat Documents/Csv/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,Int,Float,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,QC,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,50,4,0,140,144,8,0,330,25,3,1,0.5,93.704912
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'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
```

Q4.2



Q4.3



Q4.4

```
menna@cis106:~

menna@cis106:~

grep -w "^love" ~/Documents/Books/dracula.txt

love her. One, two, three, all open their veins for her, besides one old

love and pride, seen you grow up. Now I want you to make your home here

love me, and he loves me, and I love you with all the moods and tenses

love her. Oh, Madam Mina, by that love, I implore you, help me. It is

love and from the good, good wishes of those other strong men.

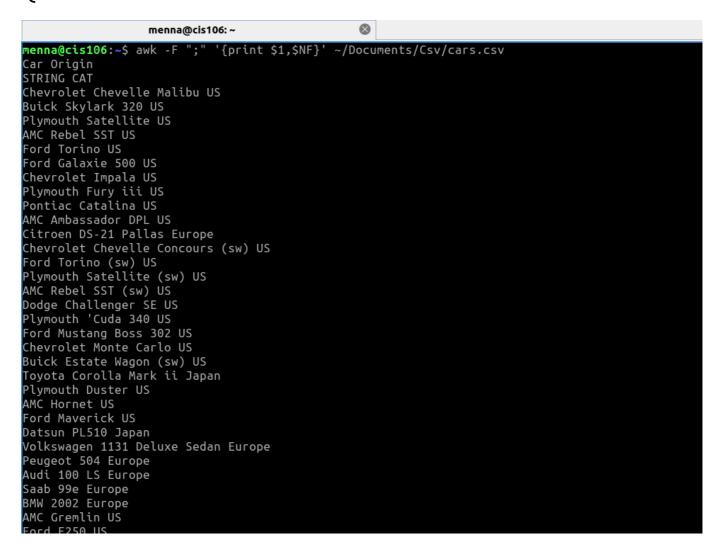
love Mina, I know. Oh, do something to save her. It cannot have gone too
```

Q4.5

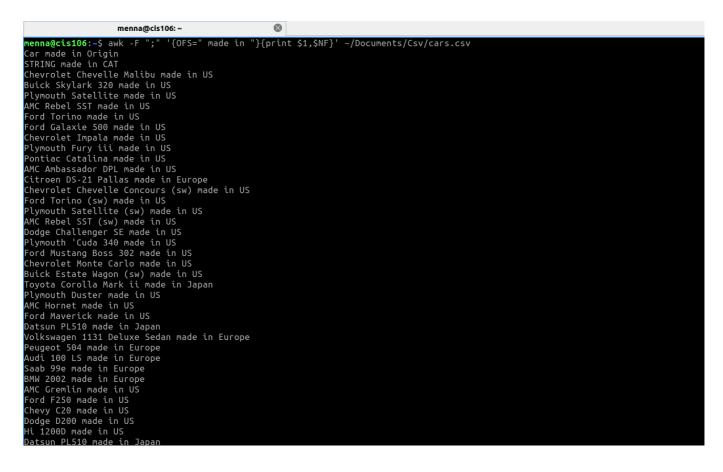
```
menna@cis106:~$ grep -oiw '^l[aeoui].[aeoui]' ~/Documents/Books/dracula.txt
late
late
like
like
like
like
like
like
life
life
life
late
lose
life
late
life
late
late
love
love
line
life
like
like
life
like
like
like
late
lieu
menna@cis106:~$
```

Question 5

Q5.1



Q5.2

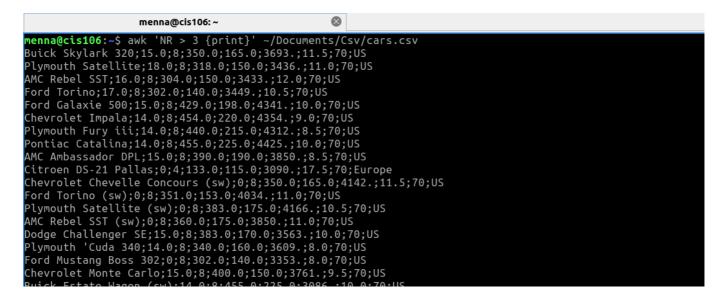


Q5.3

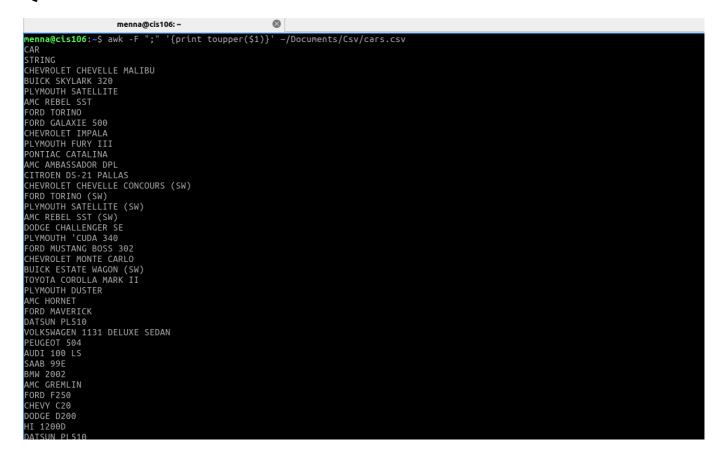
```
menna@cis106:-

menna@cis106:-
```

Q5.4



Q5.5

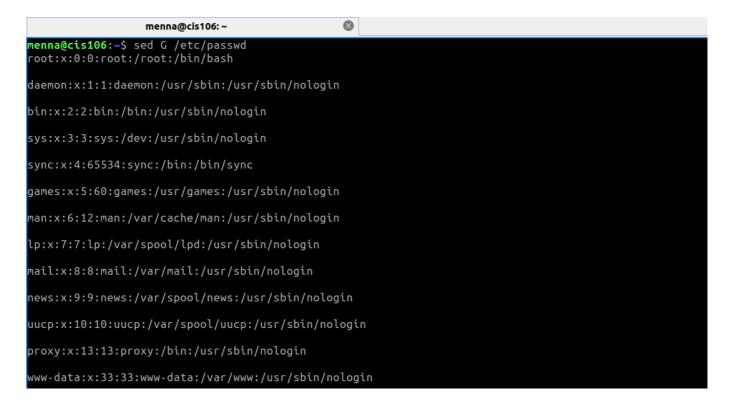


Q5.6

```
menna@cis106:~$ sed 's/Dracula/Alucard/' ~/Documents/Books/dracula.txt ■

The Castle of Alucard now stood out against the red sky, and every stone of its broken battlements was articulated against the light of the setting sun.
```

Q5.7



Q5.8

```
This website includes information about Project Gutenberg-tm, including how to make donations to the Project Gutenberg Literary

Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.

menna@cis106:~$ sed '/^$/d;G' ~/Documents/Books/pride-and-prejudice.txt
```

Question 6

Q6.1

```
menna@cis106:~

menna@cis106:~

grep -n "/bin/bash" /etc/passwd

1:root:x:0:0:root:/root:/bin/bash

41:menna:x:1000:1000:Menna eHAB:/home/menna:/bin/bash

menna@cis106:~

grep -n "/bin/bash" /etc/passwd | wc -l

menna@cis106:~

menna@cis106:~

■
```

Q6.2

Q6.3

```
menna@cis106:~

menna@cis106:~$ grep -i "ford" ~/Documents/Csv/cars.csv | wc -l

53
menna@cis106:~$

■
```

Q6.4

```
menna@cis106:~$ grep -o '....' ~/Documents/Books/bible.txt | wc -l
1127435
menna@cis106:~$ ■
```