

# Handling Files

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## Question 1

```

maybs248@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:/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
syslog:x:104:110:/:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
uuid:x:107:114:/:run/uuid:/usr/sbin/nologin
tcpdump:x:108:115:/:nonexistent:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
cups-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
avahi:x:115:121:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
saned:x:117:123:/:var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
whoopsie:x:120:125:/:nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:122:127:/:var/lib/geoclue:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534:/:run/gnome-initial-setup:/bin/false
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
maybs248:x:1000:1000:Maybel,,,:/home/maybs248:/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
vboxadd:x:998:1:/:var/run/vboxadd:/bin/false

```

```

maybs248@cis106:~$ tac /etc/passwd
vboxadd:x:998:1:/:var/run/vboxadd:/bin/false
_flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/:usr/sbin/nologin
maybs248:x:1000:1000:Maybel,,,:/home/maybs248:/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

```

```

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
sys:x:3:3:sys:/dev:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
root:x:0:0:root:/root:/bin/bash

```

```

maybs248@cis106:~$ 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 uuidd:x:107:114:/:/run/uuidd:/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$
45 sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin$
46 maybs248:x:1000:1000:Maybel,,,:/home/maybs248:/bin/bash$
47 systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin$
48 _flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin$
49 vboxadd:x:998:1:/:/var/run/vboxadd:/bin/false$

```

```

maybs248@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
maybs248@cis106:~$ tail -5 /etc/passwd
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
maybs248:x:1000:1000:Maybel,,,:/home/maybs248:/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
vboxadd:x:998:1:/:/var/run/vboxadd:/bin/false

```

## Question 2

```
maybs248@cis106:~$ cut -d ":" -f1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
```

```
maybs248@cis106:~$ 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
```

```
maybs248@cis106:~$ cut -d "=" -f1,7 /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
```

```
maybs248@cis106:~$ cut -d ',' --complement -s -f3 /etc/passwd
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
tss:x:106:111:TPM software stack,,:/var/lib/tpm:/bin/false
avahi-autoipd:x:109:116:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,:/proc:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
cups-pk-helper:x:113:120:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,:/run/speech-dispatcher:/bin/false
avahi:x:115:121:Avahi mDNS daemon,,:/var/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,:/run/hplip:/bin/false
colord:x:121:126:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,:/var/run/pulse:/usr/sbin/nologin
sssd:x:126:131:SSSD system user,,:/var/lib/sss:/usr/sbin/nologin
maybs248:x:1000:1000:Maybel,,:/home/maybs248:/bin/bash
flatpak:x:127:137:Flatpak system-wide installation helper,,:/nonexistent:/usr/sbin/nologin
```

## Question 3



```

maybs248@cis106:~$ curl -s https://cis106.com/assets/shopping.md -o shopping.md
maybs248@cis106:~$ curl -s https://cis106.com/assets/tasks.md -o tasks.md
maybs248@cis106:~$ ls
challenge-Lab6  lab5ChallengeQuestion  practicels
cis106          lab5-docs               practicels.tar.xz
Desktop        lab5-images            Public
Documents      lab5-video             shopping.md
Downloads      lab6                   snap
lab4files      lab6-q5                tasks.md
lab-5          Music                  Templates
lab5-audio     Pictures               Videos
maybs248@cis106:~$ paste shopping.md tasks.md
## Shopping      ## Tasks
1. Apples:       1. Do Laundry:
2. Meat:         2. Cook lunch:
3. Bread:        3. Clean room:
maybs248@cis106:~$ wc -l Documents/Books/dracula.txt
15860 Documents/Books/dracula.txt
maybs248@cis106:~$ wc -w Documents/Books/pride-and-prejudice.txt
124749 Documents/Books/pride-and-prejudice.txt
maybs248@cis106:~$ █

```

```

maybs248@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
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
maybs248:x:1000:1000:Maybel,,,:/home/maybs248:/bin/bash
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
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
uuid:x:107:114::/run/uuid:/usr/sbin/nologin
vboxadd:x:998:1::/var/run/vboxadd:/bin/false
whoopsie:x:120:125::/nonexistent:/bin/false
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin

```

## Question 4

```

maybs248@cis106:~$ ls Documents/Csv
cars.csv cereal.csv contacts.csv country.csv film.csv
maybs248@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
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 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

```

```

maybs248@cis106:~/Documents/Books$ grep -i "love" pride-and-prejudice.txt
that he _may_ fall in love with one of them, and therefore you
persuade you at last. I was sure you loved your girls too well to
anything. Lydia, my love, though you _are_ the youngest, I dare
be fond of dancing was a certain step towards falling in love;
first, and was in a way to be very much in love; but she
who have heart enough to be really in love without encouragement.
secure of him, there will be leisure for falling in love as
love, from love to matrimony, in a moment. I knew you would be
Well, Jane, make haste and tell us; make haste, my love."

```

```

maybs248@cis106:~/Documents/Books$ grep -Ew "love|hate" pride-and-prejudice.txt
that he _may_ fall in love with one of them, and therefore you
anything. Lydia, my love, though you _are_ the youngest, I dare
be fond of dancing was a certain step towards falling in love;
"Come, Darcy," said he, "I must have you dance. I hate to see you
first, and was in a way to be very much in love; but she
who have heart enough to be really in love without encouragement.
secure of him, there will be leisure for falling in love as
love, from love to matrimony, in a moment. I knew you would be
Well, Jane, make haste and tell us; make haste, my love."
a gentleman at my brother Gardiner's in town so much in love with her,
love!"
"I have been used to consider poetry as the _food_ of love," said
"Of a fine, stout, healthy love it may. Everything nourishes what
dearly love a laugh."

```

```
maybs248@cis106:~/Documents/Books$ grep -ni "^Love" dracula.txt
2329:love you honestly, going away and looking all broken-hearted, and to
2412:lover; it's more unselfish anyhow. My dear, I'm going to have a pretty
2443:lover, such a husband, and such a friend.
2528:lovelier than ever, and we drove up to the house at the Crescent in
6083:love her. One, two, three, all open their veins for her, besides one old
6238:love and pride, seen you grow up. Now I want you to make your home here
6268:love me, and he loves me, and I love you with all the moods and tenses
6653:loveliness had come back to her in death, and the hours that had passed,
6837:loveliness. It frightened and amazed me somewhat; and as for Arthur, he
7292:love her. Oh, Madam Mina, by that love, I implore you, help me. It is
8464:lover, but only her physician and her friend. I gave to her my nights
9531:loved and honoured as our host is, everything regarding him is of
10465:love and from the good, good wishes of those other strong men.
11571:love Mina, I know. Oh, do something to save her. It cannot have gone too
14704:loved him and honoured him more than I can say, and that my latest and
15418:loved her, that they did dare much for her sake."
maybs248@cis106:~/Documents/Books$
```

```
maybs248@cis106:~/Documents/Books$ grep -ni "l[I][a-z][aeiou]" dracula.txt
6:of the Project Gutenberg License included with this eBook or online at
22:Produced by: Chuck Greif and the Online Distributed Proofreading Team
50:      THE COUNTRY LIFE PRESS, GARDEN CITY, N.Y.
144:In the population of Transylvania there are four distinct nationalities:
162:which they said was "mamaliga," and egg-plant stuffed with forcemeat, a
177:of attire. Some of them were just like the peasants at home or those I
183:fluttering from them like the dresses in a ballet, but of course there
186:hats, great baggy dirty-white trousers, white linen shirts, and enormous
217:    you. Sleep well to-night. At three to-morrow the diligence will
224:there were many nationalities in the crowd, so I quietly got my polka-
```

## Question 5



```
maybs248@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
```

```
maybs248@cis106:~/Documents/Csv$ awk -F ";" '{OFS=" is made on "}{print $1,$NF}' cars.csv
Car is made on Origin
STRING is made on CAT
Chevrolet Chevelle Malibu is made on US
Buick Skylark 320 is made on US
Plymouth Satellite is made on US
AMC Rebel SST is made on US
Ford Torino is made on US
Ford Galaxie 500 is made on US
Chevrolet Impala is made on US
Plymouth Fury iii is made on US
Pontiac Catalina is made on US
AMC Ambassador DPL is made on US
Citroen DS-21 Pallas is made on Europe
Chevrolet Chevelle Concours (sw) is made on US
Ford Torino (sw) is made on US
Plymouth Satellite (sw) is made on US
AMC Rebel SST (sw) is made on US
```

The Chevy S-10 has 4 cylinders and is made on US

```
maybs248@cis106:~/Documents/Csv$ awk -F ";" '{print "The",$1,"has",$3,"cylinders","and is made on",$NF}' cars.csv
```

```
maybs248@cis106:~/Documents/Csv$ awk 'NR > 3 { print }' cars.csv
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
```

```
maybs248@cis106:~/Documents/Csv$ awk -F ";" '{print toupper ($0)}' cars.csv
CAR;MPG;CYLINDERS;DISPLACEMENT;HORSEPOWER;WEIGHT;ACCELERATION;MODEL;ORIGIN
STRING;DOUBLE;INT;DOUBLE;DOUBLE;DOUBLE;DOUBLE;INT;CAT
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
```

```

maybs248@cis106:~/Documents/Books$ sed 's/Dracula/Alucard/' dracula.txt | grep "
Alucard"
The Project Gutenberg eBook of Alucard, by Bram Stoker
Title: Alucard
Castle Alucard, as there are no maps of this country as yet to compare
town named by Count Alucard, is a fairly well-known place. I shall enter
Count Alucard had directed me to go to the Golden Krone Hotel, which I
was all he knew. When I asked him if he knew Count Alucard, and could
"Count Alucard?" He bowed in a courtly way as he replied:--
"I am Alucard; and I bid you welcome, Mr. Harker, to my house. Come in;

maybs248@cis106:~/Documents/Books$ cd
maybs248@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

Most people start at our website which has the main PG search
facility: www.gutenberg.org

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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.

maybs248@cis106:~/Documents/Books$ sed '/^$/d;G' pride-and-prejudice.txt

```

## Question 6

```

maybs248@cis106:~$ grep -n "/bin/bash" /etc/passwd
1:root:x:0:0:root:/root:/bin/bash
46:maybs248:x:1000:1000:Maybel,,,:/home/maybs248:/bin/bash
maybs248@cis106:~$ grep -n "/bin/bash" /etc/passwd | wc -l
2
maybs248@cis106:~$

maybs248@cis106:~$ grep -n "/sbin/nologin" /etc/passwd | wc -l
39
maybs248@cis106:~$

Ford Mustang Cobra;25.0;4;140.0;0;2905.;14.3;80;83
Ford Escort 4W;34.4;4;98.00;65.00;2045.;16.2;81;US
Ford Escort 2H;29.9;4;98.00;65.00;2380.;20.7;81;US
Ford Grenada gl;20.2;6;200.0;88.00;3060.;17.1;81;US
Ford Fairmont Futura;24.0;4;140.0;92.00;2865.;16.4;82;US
Ford Grenada l;22.0;6;232.0;112.0;2835;14.7;82;US
Ford Mustang GL;27.0;4;140.0;86.00;2790.;15.6;82;US
Ford Ranger;28.0;4;120.0;79.00;2625.;18.6;82;US
maybs248@cis106:~/Documents/Csv$ grep -i "ford" cars.csv | wc -l
53
maybs248@cis106:~/Documents/Csv$ grep -i "ford" cars.csv

maybs248@cis106:~/Documents/Books$ grep -n '^....' bible.txt | wc -l
31102

```

## Challenge Question

```

maybs248@cis106:~/Documents/Csv$ awk 'NR > 3 {print $1}' cereal.csv
100%
All-Bran;K;C;70;4;1;260;9;7;5;320;25;3;1;0.33;59.425505
All-Bran
Almond
Apple
Apple
Basic
Bran
Bran
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
Clusters;G;C;110;3;2;140;2;13;7;105;25;3;1;0.5;40.400208

maybs248@cis106:~/Documents/Csv$ awk 'NR > 3 {print $1}' cereal.csv | sort > cereal-sorted
maybs248@cis106:~/Documents/Csv$ ls -l
total 212
-rw-rw-r-- 1 maybs248 maybs248 22663 May 12 14:11 cars.csv
-rw-rw-r-- 1 maybs248 maybs248 5157 May 12 14:11 cereal.csv
-rw-rw-r-- 1 maybs248 maybs248 1228 May 16 17:22 cereal-sorted
-rw-rw-r-- 1 maybs248 maybs248 12886 May 12 14:11 contacts.csv
-rw-rw-r-- 1 maybs248 maybs248 3869 May 12 14:11 country.csv
-rw-rw-r-- 1 maybs248 maybs248 159714 May 12 14:11 film.csv

```

```
maybs248@cis106:~/Documents/Csv$ head -2 cereal.csv | awk -F ";" '{print $1,$4}' cereal.csv
name calories
String Int
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
```

```
maybs248@cis106:~/Documents/Csv$ head -2 cereal.csv | awk -F "," '{print $1,$4}' cereal.csv |
cut -d ";" -f1,4 --output-delimiter = "," cereal.csv
cut: ,: No such file or directory
name=calories
String=Int
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
```