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## Questions

### Question 1

```
tmsamkough@CIS106VM: ~$ 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:Mail 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
messagebus:x:102:105:/nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/nonexistent:/usr/sbin/nologin
tss:x:106:113:TPM software stack,,:/var/lib/tpm:/bin/false
uidd:x:107:116:/run/uidd:/usr/sbin/nologin
systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
tcpdump:x:109:118:/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:111:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,:/run/avahi-daemon:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
rltk:x:116:123:RealtimeKit,,:/proc:/usr/sbin/nologin
whoopsie:x:117:124:/nonexistent:/bin/false
sssd:x:118:125:SSSD system user,,:/var/lib/sss:/usr/sbin/nologin
speech-dispatcher:x:119:29:Speech Dispatcher,,:/run/speech-dispatcher:/bin/false
fwupd-refresh:x:120:126:fwupd-refresh user,,:/run/systemd:/usr/sbin/nologin
nm-openvpn:x:121:127:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
saned:x:122:129:/var/lib/saned:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:124:131:/var/lib/geoclue:/usr/sbin/nologin
pulse:x:125:132:PulseAudio daemon,,:/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:126:65534:/run/gnome-initial-setup:/bin/false
nlp:x:127:7:HPiP system user,,:/run/nlp:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
tmsamkough:x:1000:1000:Tambi,,:/home/tmsamkough:/bin/bash
uboxadd:x:999:1:/usr/lib/uboxadd:/bin/false

tmsamkough@CIS106VM: ~$ tac /etc/passwd
Flatpak:x:129:138:Flatpak system-wide installation helper,,:/nonexistent:/usr/sbin/nologin
uboxadd:x:999:1:/usr/lib/uboxadd:/bin/false
tmsamkough:x:1000:1000:Tambi,,:/home/tmsamkough:/bin/bash
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
nlp:x:127:7:HPiP system user,,:/run/nlp:/bin/false
gnome-initial-setup:x:126:65534:/run/gnome-initial-setup:/bin/false
pulse:x:125:132:PulseAudio daemon,,:/run/pulse:/usr/sbin/nologin
geoclue:x:124:131:/var/lib/geoclue:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
saned:x:122:129:/var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:121:127:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
fwupd-refresh:x:120:126:fwupd-refresh user,,:/run/systemd:/usr/sbin/nologin
speech-dispatcher:x:119:29:Speech Dispatcher,,:/run/speech-dispatcher:/bin/false
sssd:x:118:125:SSSD system user,,:/var/lib/sss:/usr/sbin/nologin
whoopsie:x:117:124:/nonexistent:/bin/false
rltk:x:116:123:RealtimeKit,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,:/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
usbmux:x:111:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
tcpdump:x:109:118:/nonexistent:/usr/sbin/nologin
systemd-oom:x:108:117:systemd Userspace OOM Killer,,:/run/systemd:/usr/sbin/nologin
uidd:x:107:116:/run/uidd:/usr/sbin/nologin
tss:x:106:113:TPM software stack,,:/var/lib/tpm:/bin/false
_apt:x:105:65534:/nonexistent:/usr/sbin/nologin
syslog:x:104:111:/home/syslog:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:/nonexistent:/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:/run/ircd:/usr/sbin/nologin
list:x:38:38:Mail List Manager:/var/list:/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
sys:x:3:3:sys:/dev:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
```

```
tmsamkough@CIS106VM:~$ 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:MailList Manager:/var/list:/usr/sbin/nologin$
16 irc:x:39:39:ircd:/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:nobody:/nonexistent:/usr/sbin/nologin$
19 systemd-network:x:102:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin$
20 systemd-resolve:x:101:101:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin$
21 messagebus:x:102:105:/:nonexistent:/usr/sbin/nologin$
22 systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin$
23 syslog:x:104:111:/:home/syslog:/usr/sbin/nologin$
24 _apt:x:105:65534:/:nonexistent:/usr/sbin/nologin$
25 tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false$
26 uidd:x:107:116:/:run/uidd:/usr/sbin/nologin$
27 systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin$
28 tcpdump:x:109:118:/:nonexistent:/usr/sbin/nologin$
29 avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin$
30 usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin$
31 dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/iptables:/usr/sbin/nologin$
32 kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin$
33 avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin$
34 cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin$
35 rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin$
36 whoopsie:x:117:124:/:nonexistent:/bin/false$
37 sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin$
38 speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false$
39 fwupd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin$
40 nn-ovpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/ovpn/chroot:/usr/sbin/nologin$
41 saned:x:122:129:/:/var/lib/saned:/usr/sbin/nologin$
42 colord:x:123:138:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin$
43 geoclue:x:124:131:/:/var/lib/geoclue:/usr/sbin/nologin$
44 pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin$
45 gnome-initial-setup:x:126:65534:/:/run/gnome-initial-setup:/bin/false$
46 hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false$
47 gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false$
48 tmsamkough:x:1000:1000:Tambi,,,:/home/tmsamkough:/bin/bash$
49 vboxadd:x:999:1:/:/var/run/vboxadd:/bin/false$
```

```
tmsamkough@CIS106VM:~$ 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
tmsamkough@CIS106VM:~$ tail -5 /etc/passwd
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
tmsamkough:x:1000:1000:Tambi,,,:/home/tmsamkough:/bin/bash
vboxadd:x:999:1:/:/var/run/vboxadd:/bin/false
_flatpak:x:129:138:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
tmsamkough@CIS106VM:~$
```

## Question 2

```
tnsankough@CIS106VM:~$ cat -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
messagebus
systemd-timesync
syslog
_apt
tss
uuidd
systemd-oom
tcpdump
avahi-autoipd
usbmux
dnsmasq
kernoops
avahi
cups-pk-helper
rtkit
whoopste
sssd
speech-dispatcher
fwupd-refresh
nm-openvpn
saned
colord
geoclue
pulse
gnome-initial-setup
hplip
gdm
tnsankough
```

```
tnsankough@CIS106VM:~$ cat -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
messagebus:/usr/sbin/nologin
systemd-timesync:/usr/sbin/nologin
syslog:/usr/sbin/nologin
_apt:/usr/sbin/nologin
tss:/bin/false
uuidd:/usr/sbin/nologin
systemd-oom:/usr/sbin/nologin
tcpdump:/usr/sbin/nologin
avahi-autoipd:/usr/sbin/nologin
usbmux:/usr/sbin/nologin
dnsmasq:/usr/sbin/nologin
kernoops:/usr/sbin/nologin
avahi:/usr/sbin/nologin
cups-pk-helper:/usr/sbin/nologin
rtkit:/usr/sbin/nologin
whoopste:/bin/false
sssd:/usr/sbin/nologin
speech-dispatcher:/bin/false
fwupd-refresh:/usr/sbin/nologin
nm-openvpn:/usr/sbin/nologin
saned:/usr/sbin/nologin
colord:/usr/sbin/nologin
geoclue:/usr/sbin/nologin
pulse:/usr/sbin/nologin
gnome-initial-setup:/bin/false
hplip:/bin/false
gdm:/bin/false
tnsankough:/bin/bash
```

```

tensankough@CIS106VM:~$ cat -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
messagebus = /usr/sbin/nologin
systemd-timesync = /usr/sbin/nologin
syslog = /usr/sbin/nologin
_apt = /usr/sbin/nologin
tss = /bin/false
uiddd = /usr/sbin/nologin
systemd-oom = /usr/sbin/nologin
tcpdump = /usr/sbin/nologin
avahi-autoipd = /usr/sbin/nologin
usbmux = /usr/sbin/nologin
dnsmasq = /usr/sbin/nologin
kernoops = /usr/sbin/nologin
avahi = /usr/sbin/nologin
cups-pk-helper = /usr/sbin/nologin
rtkit = /usr/sbin/nologin
whoopsie = /bin/false
sssd = /usr/sbin/nologin
speech-dispatcher = /bin/false
fwupd-refresh = /usr/sbin/nologin
nn-ovpn = /usr/sbin/nologin
saned = /usr/sbin/nologin
colord = /usr/sbin/nologin
geoclue = /usr/sbin/nologin
pulse = /usr/sbin/nologin
gnome-initial-setup = /bin/false
hplip = /bin/false
gdm = /bin/false
tensankough = /bin/bash

```

```

tensankough@CIS106VM:~$ cat -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:Mail list Managers:/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
messagebus:x:105:/nonexistent:/usr/sbin/nologin
systemd-timesync:x:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:111:/home/syslog:/usr/sbin/nologin
_apt:x:65534:/nonexistent:/usr/sbin/nologin
tss:x:113:TPM software stack,,,:/var/lib/tpm:/bin/false
uiddd:x:116:/run/uiddd:/usr/sbin/nologin
systemd-oom:x:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
tcpdump:x:118:/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:119:Avahi autoipd daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:46:usbmux daemon,,:/var/lib/usbmux:/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:121:Avahi mDNS daemon,,:/run/avahi-daemon:/usr/sbin/nologin
cups-pk-helper:x:122:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
rtkit:x:123:RealtimeKit,,:/proc:/usr/sbin/nologin
whoopsie:x:124:/nonexistent:/bin/false
sssd:x:125:SSSO system user,,:/var/lib/sss:/usr/sbin/nologin
speech-dispatcher:x:29:speech Dispatcher,,:/run/speech-dispatcher:/bin/false
fwupd-refresh:x:126:fwupd-refresh user,,:/run/systemd:/usr/sbin/nologin
nn-ovpn:x:127:NetworkManager OpenVPN,,:/var/lib/ovpn/chroot:/usr/sbin/nologin
saned:x:129:/var/lib/saned:/usr/sbin/nologin
colord:x:130:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:131:/var/lib/geoclue:/usr/sbin/nologin
pulse:x:132:PulseAudio daemon,,:/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:65534:/run/gnome-initial-setup:/bin/false
hplip:x:7:HPLIP system user,,:/run/hplip:/bin/false
gdm:x:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
tensankough:x:1000:Tanbi,,:/home/tensankough:/bin/bash

```

## Question 3

```
tmsankough@CIS106VM:~$ curl -s https://cis106.com/assets/shopping.txt -o shopping.txt
tmsankough@CIS106VM:~$ curl -s ^[[200~https://cis106.com/assets/tasks.txt~^C
tmsankough@CIS106VM:~$
tmsankough@CIS106VM:~$ curl -s https://cis106.com/assets/tasks.txt -o tasks.txt
tmsankough@CIS106VM:~$ ls
cis106      gitcommands.txt  lab5ChallengeQuestion  Music          snap          wildcardpractice
Desktop    lab4files        lab5-docs              Pictures       tasks.txt
Documents  Lab-5            lab5-imgs              Public         Templates
Downloads  lab5-audio       lab5-video             shopping.txt   Videos
tmsankough@CIS106VM:~$ curl -s https://cis106.com/assets/tasks.txt -o tasks.txt
```

```
tmsankough@CIS106VM:~/Documents$ ls
Books  Csv  Json
tmsankough@CIS106VM:~/Documents$ cd ..
tmsankough@CIS106VM:~$ cd Documents
tmsankough@CIS106VM:~/Documents$ cd Books
tmsankough@CIS106VM:~/Documents/Books$ ls
bible.txt  dracula.txt  great-expectations.txt  pride-and-prejudice.txt  war-and-peace.txt
tmsankough@CIS106VM:~/Documents/Books$ wc -l dracula.txt
15845 dracula.txt
tmsankough@CIS106VM:~/Documents/Books$ wc -w pride-and-prejudice.txt
130412 pride-and-prejudice.txt
tmsankough@CIS106VM:~/Documents/Books$
```

```
tmsankough@CIS106VM:~/Documents/Books$ sort /etc/passwd
apt:x:105:65534::/nonexistent:/usr/sbin/nologin
avahi-autopd:x:110:119:Avahi autopd daemon,,,:/var/lib/avahi-autopd:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
bin:x:2:2:bin:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
cups-pk-helper:x:115:122: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:129:138:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
fwupd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
games:x:5:60:games:/usr/games:/usr/sbin/nologin
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
geoclue:x:124:131::/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:126:65534::/run/gnome-initial-setup:/bin/false
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
lirc:x:39:39:lircd:/run/lircd:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
list:x:38:38:Mail 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:102:105::/nonexistent:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
nn-opensvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/opensvpn/chroot:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
root:x:0:0:root:/root:/bin/bash
rktl:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
saned:x:122:129:/var/lib/saned:/usr/sbin/nologin
speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
syslog:x:104:111::/home/syslog:/usr/sbin/nologin
systemd-networkd:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-oomd:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesyncd:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
tcpdump:x:109:110:/nonexistent:/usr/sbin/nologin
tmsankough:x:1000:1000:Tambl,,,:/home/tmsankough:/bin/bash
tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
```

## Question 4

```
tmsankough@CIS106VM:~$ cat Documents/csv/cereal.csv | tr ';' ','
name,nfrr,type,calories,protein,fat,sodium,fiber,carbo,sugars,potass,vitamins,shelf,weight,cups,rating
String,Categorical,Int,Int,Int,Int,Float,Float,Int,Int,Int,Int,Float,Float,Float
100% Bran,K,C,70,4,1,130,0,5,0,200,25,3,1,0,33,68,402973
100% Natural Bran,O,C,120,3,5,15,2,8,135,0,3,1,1,33,983679
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,110,2,2,100,1,5,10,5,10,70,25,1,1,0,75,29,509541
Apple Jacks,K,C,110,2,0,125,1,11,14,30,25,2,1,1,33,74094
Basic 4,G,C,130,3,2,210,2,18,8,100,25,3,1,33,0,75,37,038562
Bran Chex,R,C,90,2,1,200,4,15,0,125,25,1,1,0,67,49,120253
Bran Flakes,P,C,90,3,0,210,5,13,5,190,25,3,1,0,67,53,313813
Cap'n Crunch,O,C,120,1,2,220,0,12,12,35,25,2,1,0,75,18,042851
Cheerios,G,C,110,2,1,105,2,1,1,105,25,1,1,1,25,50,764999
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,100,2,0,290,1,21,2,35,25,1,1,1,45,803324
Corn Pops,K,C,110,1,0,90,1,10,12,20,25,2,1,1,35,782791
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,-1,0,2,1,64,533816
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
Fruital 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,120,3,3,75,3,13,4,100,25,3,1,0,33,45,011716
Honey Graham Ohs,O,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,110,2,1,170,1,17,0,60,100,3,1,1,36,523683
Just Right Fruit & Nut,K,C,140,3,1,170,2,20,9,95,100,3,1,3,0,75,36,471512
Kix,G,C,110,2,1,260,0,20,3,40,25,2,1,1,5,39,241114
Life,O,C,180,4,2,150,2,12,6,95,25,2,1,0,67,45,328074
Lucky Charms,G,C,110,2,1,180,0,12,12,55,25,2,1,1,26,734515
Mavro G,H,100,4,1,0,0,16,3,95,25,2,1,1,54,650917
```

```
tmsankough@CIS106VM:~$ grep -in "love" Documents/Books/pride-and-prejudice.txt
99:by allowance" and "loving with personal love." This distinction applies
103:to their best work than in the case of those others who are loved "by
105:proper thing to love them. And in the sect--fairly large and yet
153:All the minor passages--the loves of Jane and Bingley, the advent of Mr.
166:aversion to actual love. I do not know whether the all-grasping hand of
396:his falling in love at all is not extremely probable. Here again I
408:injured in disposition, and thoroughly in love. As for his being in
409:love, Elizabeth has given as just an exposition of the causes of that
461:anybody who can read between lines will not find the lovers'
470:ladies with whom it might be a pleasure to fall in love; there are at
474:Grant. I should have been most in love with Beatrix and Argemone; I
575:"So much love and eloquence" 156
756:_may_ fall in love with one of them, and therefore you must visit him as
921:persuade you at last. I was sure you loved your girls too well to
933:for your sakes we would do anything. Lydia, my love, though you _are_
972:dancing was a certain step towards falling in love; and very lively
1415:way to be very much in love; but she considered with pleasure that it
1430:very few of us who have heart enough to be really in love without
1450:in love as much as she chooses."
1657:imagination is very rapid; it jumps from admiration to love, from love
1764:Jane, make haste and tell us; make haste, my love."
2334:brother Gardiner's in town so much in love with her, that my
2341:discovered the efficacy of poetry in driving away love!"
2343:"I have been used to consider poetry as the _food_ of love," said Darcy.
2345:"Of a fine, stout, healthy love it may. Everything nourishes what is
2821:be a great loss to _me_ to have many such acquaintance. I dearly love a
2986:to-day. Lydia, my love, ring the bell. I must speak to Hill this
3325:His plan did not vary on seeing them. Miss Bennet's lovely face
4705:effects of your loveliness and amiable qualifications. As I must,
4707:shall choose to attribute it to your wish of increasing my love by
4745:successful love; for Mrs. Bennet, having dawdled about in the vestibule
5074:in love with you and wants him to marry Miss Darcy. She follows him to
5082:is not such a simpleton. Could she have seen half as much love in Mr.
5093:of being in love with you, he is very much in love with her friend."
5185:she dared to hope that so much love and eloquence awaited her there.
5207:"So much love and eloquence"
```



```
tmsamkough@CIS106VM:~$ grep -Ewn "love|hate" Documents/Books/pride-and-prejudice.txt
99:by allowance" and "loving with personal love." This distinction applies
105:proper thing to love them. And in the sect--fairly large and yet
166:aversion to actual love. I do not know whether the all-grasping hand of
396:his falling in love at all is not extremely probable. Here again I
408:injured in disposition, and thoroughly in love. As for his being in
409:love, Elizabeth has given as just an exposition of the causes of that
470:ladies with whom it might be a pleasure to fall in love; there are at
474:Grant. I should have been most in love with Beatrix and Argemone; I
575:"So much love and eloquence" 156
756:_may_ fall in love with one of them, and therefore you must visit him as
933:for your sakes we would do anything. Lydia, my love, though you _are_
972:dancing was a certain step towards falling in love; and very lively
1048:"Come, Darcy," said he, "I must have you dance. I hate to see you
1415:way to be very much in love; but she considered with pleasure that it
1430:very few of us who have heart enough to be really in love without
1450:in love as much as she chooses."
1657:imagination is very rapid; it jumps from admiration to love, from love
1764:Jane, make haste and tell us; make haste, my love."
2334:brother Gardiner's in town so much in love with her, that my
2341:discovered the efficacy of poetry in driving away love!"
2343:"I have been used to consider poetry as the _food_ of love," said Darcy.
2345:"Of a fine, stout, healthy love it may. Everything nourishes what is
2821:be a great loss to _me_ to have many such acquaintance. I dearly love a
2868:"And _your_ defect is a propensity to hate everybody."
2986:to-day. Lydia, my love, ring the bell. I must speak to Hill this
3020:him to write to you at all, and very hypocritical. I hate such false
4048:a man agreeable whom one is determined to hate! Do not wish me such an
4707:shall choose to attribute it to your wish of increasing my love by
4745:successful love; for Mrs. Bennet, having dawdled about in the vestibule
5074:in love with you and wants him to marry Miss Darcy. She follows him to
5082:is not such a simpleton. Could she have seen half as much love in Mr.
```

```
tmsamkough@CIS106VM:~$ grep -i "^love" Documents/Books/dracula.txt
loves you honestly, going away and looking all broken-hearted, and to
lover; it's more unselfish anyhow. My dear, I'm going to have a pretty
lover, such a husband, and such a friend.
lovelier than ever, and we drove up to the house at the Crescent in
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
loveliness had come back to her in death, and the hours that had passed,
loveliness. It frightened and amazed me somewhat; and as for Arthur, he
love her. Oh, Madam Mina, by that love, I implore you, help me. It is
lover, but only her physician and her friend. I gave to her my nights
loved and honoured as our host is, everything regarding him is of
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
loved him and honoured him more than I can say, and that my latest and
loved her, that they did dare much for her sake."
```

```
tmsamkough@CIS106VM:~$ grep -n '^[A-Z0-9]' Documents/Books/dracula.txt
3:This eBook is for the use of anyone anywhere in the United States and
11:Title: Dracula
13:Author: Bram Stoker
15:Release Date: October, 1995 [eBook #345]
18:Language: English
20:Produced by: Chuck Greif and the Online Distributed Proofreading Team
62:Contents
64:CHAPTER I. Jonathan Harker's Journal
65:CHAPTER II. Jonathan Harker's Journal
66:CHAPTER III. Jonathan Harker's Journal
67:CHAPTER IV. Jonathan Harker's Journal
68:CHAPTER V. Letters—Lucy and Mina
69:CHAPTER VI. Mina Murray's Journal
70:CHAPTER VII. Cutting from "The Dailygraph," 8 August
71:CHAPTER VIII. Mina Murray's Journal
72:CHAPTER IX. Mina Murray's Journal
73:CHAPTER X. Mina Murray's Journal
74:CHAPTER XI. Lucy Westenra's Diary
75:CHAPTER XII. Dr. Seward's Diary
76:CHAPTER XIII. Dr. Seward's Diary
77:CHAPTER XIV. Mina Harker's Journal
78:CHAPTER XV. Dr. Seward's Diary
79:CHAPTER XVI. Dr. Seward's Diary
80:CHAPTER XVII. Dr. Seward's Diary
81:CHAPTER XVIII. Dr. Seward's Diary
82:CHAPTER XIX. Jonathan Harker's Journal
83:CHAPTER XX. Jonathan Harker's Journal
```

## Question 5



```
tmsankough@CIS106VM:~$ awk -F: '{print $1,$NF}' Documents/Csv/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
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
```

```
tmsankough@CIS106VM:~$ awk -F: '{print $1," madein ",$NF}' Documents/Csv/cars.csv
madein Car;MPG;Cylinders;Displacement;Horsepower;Weight;Acceleration;Model;Origin
madein STRING;DOUBLE;INT;DOUBLE;DOUBLE;DOUBLE;DOUBLE;INT;CAT
madein Chevrolet Chevelle Malibu;18.0;8;307.0;130.0;3504.;12.0;70;US
madein Buick Skylark 320;15.0;8;350.0;165.0;3693.;11.5;70;US
madein Plymouth Satellite;18.0;8;318.0;150.0;3436.;11.0;70;US
madein AMC Rebel SST;16.0;8;304.0;150.0;3433.;12.0;70;US
madein Ford Torino;17.0;8;302.0;140.0;3449.;10.5;70;US
madein Ford Galaxie 500;15.0;8;429.0;198.0;4341.;10.0;70;US
madein Chevrolet Impala;14.0;8;454.0;220.0;4354.;9.0;70;US
madein Plymouth Fury iii;14.0;8;440.0;215.0;4312.;8.5;70;US
madein Pontiac Catalina;14.0;8;455.0;225.0;4425.;10.0;70;US
madein AMC Ambassador DPL;15.0;8;390.0;190.0;3850.;8.5;70;US
madein Citroen DS-21 Pallas;0;4;133.0;115.0;3090.;17.5;70;Europe
madein Chevrolet Chevelle Concours (sw);0;8;350.0;165.0;4142.;11.5;70;US
madein Ford Torino (sw);0;8;351.0;153.0;4034.;11.0;70;US
madein Plymouth Satellite (sw);0;8;383.0;175.0;4166.;10.5;70;US
madein AMC Rebel SST (sw);0;8;360.0;175.0;3850.;11.0;70;US
madein Dodge Challenger SE;15.0;8;383.0;170.0;3563.;10.0;70;US
madein Plymouth 'Cuda 340;14.0;8;340.0;160.0;3609.;8.0;70;US
madein Ford Mustang Boss 302;0;8;302.0;140.0;3353.;8.0;70;US
madein Chevrolet Monte Carlo;15.0;8;400.0;150.0;3761.;9.5;70;US
madein Buick Estate Wagon (sw);14.0;8;455.0;225.0;3086.;10.0;70;US
madein Toyota Corolla Mark ii;24.0;4;113.0;95.00;2372.;15.0;70;Japan
madein Plymouth Duster;22.0;6;198.0;95.00;2833.;15.5;70;US
madein AMC Hornet;18.0;6;199.0;97.00;2774.;15.5;70;US
madein Ford Maverick;21.0;6;200.0;85.00;2587.;16.0;70;US
madein Datsun PL510;27.0;4;97.00;88.00;2130.;14.5;70;Japan
madein Volkswagen 1131 Deluxe Sedan;26.0;4;97.00;46.00;1835.;20.5;70;Europe
madein Peugeot 504;25.0;4;110.0;87.00;2672.;17.5;70;Europe
madein Audi 100 LS;24.0;4;107.0;90.00;2430.;14.5;70;Europe
madein Saab 99e;25.0;4;104.0;95.00;2375.;17.5;70;Europe
madein BMW 2002;26.0;4;121.0;113.0;2234.;12.5;70;Europe
madein AMC Gremlin;21.0;6;199.0;90.00;2648.;15.0;70;US
madein Ford F250;10.0;8;360.0;215.0;4615.;14.0;70;US
madein Chevy C20;10.0;8;307.0;200.0;4376.;15.0;70;US
madein Dodge D200;11.0;8;318.0;210.0;4382.;13.5;70;US
madein Hi 1200D;9.0;8;304.0;193.0;4732.;18.5;70;US
```

```

Made in 12000,9.0,8,304.0,195.0,4732.1,18.5,70,US
msamkough@CIS106VM:~$ awk -F';' '{ print "The ", $1, " has ", $3, " cylinders and is made in ",
$9 }' Documents/Csv/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
The Ford Torino (sw) has 8 cylinders and is made in US
The Plymouth Satellite (sw) has 8 cylinders and is made in US
The AMC Rebel SST (sw) has 8 cylinders and is made in US
The Dodge Challenger SE has 8 cylinders and is made in US
The Plymouth 'Cuda 340 has 8 cylinders and is made in US
The Ford Mustang Boss 302 has 8 cylinders and is made in US
The Chevrolet Monte Carlo has 8 cylinders and is made in US
The Buick Estate Wagon (sw) has 8 cylinders and is made in US
The Toyota Corolla Mark ii has 4 cylinders and is made in Japan
The Plymouth Duster has 6 cylinders and is made in US
The AMC Hornet has 6 cylinders and is made in US
The Ford Maverick has 6 cylinders and is made in US
The Datsun PL510 has 4 cylinders and is made in Japan
The Volkswagen 1131 Deluxe Sedan has 4 cylinders and is made in Europe
The Peugeot 504 has 4 cylinders and is made in Europe
The Audi 100 LS has 4 cylinders and is made in Europe
The Saab 99e has 4 cylinders and is made in Europe
The BMW 2002 has 4 cylinders and is made in Europe
The AMC Gremlin has 6 cylinders and is made in US
The Ford F250 has 8 cylinders and is made in US
The Chevy C20 has 8 cylinders and is made in US

```

```
tmsankough@CIS106VM:~$ awk 'NR > 3 { print }' Documents/Csv/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
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
Dodge D200;11.0;8;318.0;210.0;4382.;13.5;70;US
Hi 1200D;9.0;8;304.0;193.0;4732.;18.5;70;US
Datsun PL510;27.0;4;97.00;88.00;2130.;14.5;71;Japan
```

```
tmsankough@CIS106VM:~$ awk -F";" '{print toupper($1)}' Documents/Csv/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
SAAR 99F
```

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```
tmsamkough@CIS106VM:~$ sed 's/Dracula/Alucard/' Documents/Books/dracula.txt
```

```
tmsamkough@CIS106VM:~$ 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
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
```



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```
tmsamkough@CIS106VM:~$ sed '/^$/d;G' Documents/Books/pride-and-prejudice.txt
```

## Question 6

```
tmsamkough@CIS106VM: ~  
tmsamkough@CIS106VM:~$ grep -Ec "bash|zsh|fish" /etc/passwd  
2  
tmsamkough@CIS106VM:~$ grep -Ec "nologin" /etc/passwd  
40  
tmsamkough@CIS106VM:~$ grep -wc 'Ford' Documents/Csv/cars.csv  
53  
tmsamkough@CIS106VM:~$ grep -wc '....' Documents/Books/bible.txt  
30987  
tmsamkough@CIS106VM:~$
```