

## Question 1

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ 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:/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
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
fwupd-refresh:x:129:140:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
tavanburen@tavanburen-VirtualBox:~$ tac /etc/passwd
fwupd-refresh:x:129:140:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
dummy:x:1001:1001:Dum My,12,111111111,222222222,Yeah:/home/dummy:/bin/bash
flatpak:x:128:139:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
tavanburen:x:1000:1000:tavanburen,,,:/home/tavanburen:/bin/bash
gdm:x:127:133:Gnome Display Manager:/var/lib/gdm3:/bin/false
hplip:x:126:7:HPLIP system user,,,:/run/hplip:/bin/false
gnome-initial-setup:x:125:65534:,:/run/gnome-initial-setup:/bin/false
pulse:x:124:131:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
geoclue:x:123:130:,:/var/lib/geoclue:/usr/sbin/nologin
colord:x:122:129:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
saned:x:121:128:,:/var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:120:126:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/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
rtkit: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
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
root:x:0:0:root:/root:/bin/bash
tavanburen@tavanburen-VirtualBox:~$ 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:/run/ircd:/usr/sbin/nologin$
 17 gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sb
n/nologin$
 18 nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin$
 19 systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/u
sr/sbin/nologin$
 20 systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/no
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
 44 gnome-initial-setup:x:125:65534::/run/gnome-initial-setup:/bin/false$
 45 hplip:x:126:7:HPLIP system user,,,:/run/hplip:/bin/false$
 46 gdm:x:127:133:Gnome Display Manager:/var/lib/gdm3:/bin/false$
 47 tavanburen:x:1000:1000:tavanburen,,,:/home/tavanburen:/bin/bash$
 48 _flatpak:x:128:139:Flatpak system-wide installation helper,,,:/nonexist
ent:/usr/sbin/nologin$
 49 dummy:x:1001:1001:Dum My,12,1111111111,2222222222,Yeah:/home/dummy:/bin
/bash$
 50 fwupd-refresh:x:129:140:fwupd-refresh user,,,:/run/systemd:/usr/sbin/no
login$
tavanburen@tavanburen-VirtualBox:~$ head -n 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
tavanburen@tavanburen-VirtualBox:~$ tail -n 5 /etc/passwd
gdm:x:127:133:Gnome Display Manager:/var/lib/gdm3:/bin/false
tavanburen:x:1000:1000:tavanburen,,,:/home/tavanburen:/bin/bash
_flatpak:x:128:139:Flatpak system-wide installation helper,,,:/nonexistent:/usr
/sbin/nologin
dummy:x:1001:1001:Dum My,12,1111111111,2222222222,Yeah:/home/dummy:/bin/bash
fwupd-refresh:x:129:140:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
tavanburen@tavanburen-VirtualBox:~$
```

## Question 2

```
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
tavanburen@tavanburen-VirtualBox:~$ cut -d : -f 1 /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
```

```
1 thatexam nano.8479.save  
gems nano.8499.save  
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
tavanburen@tavanburen-VirtualBox:~$ cut -d : -f 1,7 /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
```

```

tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
dummy:/bin/dash
fwupd-refresh:/usr/sbin/nologin
tavanburen@tavanburen-VirtualBox:~$ cut -d : -f 1,7 --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

```

```

tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ cut --complement -d : -f 3 /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:/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/nolog
in
systemd-resolve:x:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:105:/:/nonexistent:/usr/sbin/nologin

```

### Question 3



```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ curl -s https://cis106.com/assets/shopping.t
xt -o shopping.txt
tavanburen@tavanburen-VirtualBox:~$ curl -s https://cis106.com/assets/tasks.txt
-o tasks.txt
tavanburen@tavanburen-VirtualBox:~$ paste shopping.txt tasks.txt
Eggs      Do laundry
Milk      Play Bingo
Juice     Go to Work
Carrots   Go to School
Potatoes  Pay Bills
tavanburen@tavanburen-VirtualBox:~$ wc -l Documents/Books/dracula.txt
15860 Documents/Books/dracula.txt
tavanburen@tavanburen-VirtualBox:~$ wc -w Documents/Books/pride-and-prejudice.tx
t
130406 Documents/Books/pride-and-prejudice.txt
tavanburen@tavanburen-VirtualBox:~$ sort /etc/passwd
apt:x:105:65534::/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/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:/bin:/usr/sbin/nologin
colord:x:122:129:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/no
login
```

## Question 4

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ cat Documents/Csv/cereal.csv | tr ";" " ","
ame,mfr,type,calories,protein,fat,sodium,fiber,carbo,sugars,potass,vitamins,she
f,weight,cups,rating
tring,Categorical,Categorical,Int,Int,Int,Int,Float,Float,Int,Int,Int,Int,Float
Float,Float
00% Bran,N,C,70,4,1,130,10,5,6,280,25,3,1,0.33,68.402973
00% Natural Bran,Q,C,120,3,5,15,2,8,8,135,0,3,1,1,33.983679
ll-Bran,K,C,70,4,1,260,9,7,5,320,25,3,1,0.33,59.425505
ll-Bran with Extra Fiber,K,C,50,4,0,140,14,8,0,330,25,3,1,0.5,93.704912
lmond Delight,R,C,110,2,2,200,1,14,8,-1,25,3,1,0.75,34.384843
pple Cinnamon Cheerios,G,C,110,2,2,180,1.5,10.5,10,70,25,1,1,0.75,29.509541
pple Jacks,K,C,110,2,0,125,1,11,14,30,25,2,1,1,33.174094
asic 4,G,C,130,3,2,210,2,18,8,100,25,3,1,33,0.75,37.038562
ran Chex,R,C,90,2,1,200,4,15,6,125,25,1,1,0.67,49.120253
ran Flakes,P,C,90,3,0,210,5,13,5,190,25,3,1,0.67,53.313813
ap'n'Crunch,Q,C,120,1,2,220,0,12,12,35,25,2,1,0.75,18.042851
heerios,G,C,110,6,2,290,2,17,1,105,25,1,1,1.25,50.764999
innamon Toast Crunch,G,C,120,1,3,210,0,13,9,45,25,2,1,0.75,19.823573
lusters,G,C,110,3,2,140,2,13,7,105,25,3,1,0.5,40.400208
ocoa Puffs,G,C,110,1,1,180,0,12,13,55,25,2,1,1,22.736446
orn Chex,R,C,110,2,0,280,0,22,3,25,25,1,1,1,41.445019
orn Flakes,K,C,100,2,0,290,1,21,2,35,25,1,1,1,45.863324
orn Pops,K,C,110,1,0,90,1,13,12,20,25,2,1,1,35.782791
ount Chocula,G,C,110,1,1,180,0,12,13,65,25,2,1,1,22.396513
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ cat Documents/Books/pride-and-prejudice.txt
| grep "love"
by allowance" and "loving with personal love." This distinction applies
to their best work than in the case of those others who are loved "by
proper thing to love them. And in the sect--fairly large and yet
All the minor passages--the loves of Jane and Bingley, the advent of Mr.
aversion to actual love. I do not know whether the all-grasping hand of
his falling in love at all is not extremely probable. Here again I
injured in disposition, and thoroughly in love. As for his being in
love, Elizabeth has given as just an exposition of the causes of that
anybody who can read between lines will not find the lovers'
ladies with whom it might be a pleasure to fall in love; there are at
Grant. I should have been most in love with Beatrix and Argemone; I
'So much love and eloquence" 156
_may_ fall in love with one of them, and therefore you must visit him as
persuade you at last. I was sure you loved your girls too well to
for your sakes we would do anything. Lydia, my love, though you _are_
dancing was a certain step towards falling in love; and very lively
way to be very much in love; but she considered with pleasure that it
very few of us who have heart enough to be really in love without
in love as much as she chooses."
Imagination is very rapid; it jumps from admiration to love, from love
Jane, make haste and tell us; make haste, my love."
brother Gardiner's in town so much in love with her, that my
```

```
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
tavanburen@tavanburen-VirtualBox:~$ cat -n Documents/Books/pride-and-prejudice.txt | grep -E "love|hate"  
  98 by allowance" and "loving with personal love." This distinction applies  
 102 to their best work than in the case of those others who are loved "by  
 104 proper thing to love them. And in the sect--fairly large and yet  
 152 All the minor passages--the loves of Jane and Bingley, the advent of Mr.  
 165 aversion to actual love. I do not know whether the all-grasping hand of  
 395 his falling in love at all is not extremely probable. Here again I  
 407 injured in disposition, and thoroughly in love. As for his being in  
 408 love, Elizabeth has given as just an exposition of the causes of that  
 460 anybody who can read between lines will not find the lovers'  
 469 ladies with whom it might be a pleasure to fall in love; there are at  
 473 Grant. I should have been most in love with Beatrix and Argemone; I  
 574 "So much love and eloquence" 156  
 755 _may_ fall in love with one of them, and therefore you must visit him as  
 920 persuade you at last. I was sure you loved your girls too well to  
 932 for your sakes we would do anything. Lydia, my love, though you _are_  
 971 dancing was a certain step towards falling in love; and very lively  
1047 "Come, Darcy," said he, "I must have you dance. I hate to see you  
1414 way to be very much in love; but she considered with pleasure that it  
1429 very few of us who have heart enough to be really in love without  
1449 in love as much as she chooses."  
1656 imagination is very rapid; it jumps from admiration to love, from love  
1763 Jane, make haste and tell us; make haste, my love."
```

```
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
tavanburen@tavanburen-VirtualBox:~$ grep ^'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."  
tavanburen@tavanburen-VirtualBox:~$
```

```
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
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Revenue Service. The Foundation's EIN or federal tax identification  
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Most people start at our website which has the main PG search  
This website includes information about Project Gutenberg-tm,  
Archive Foundation, how to help produce our new eBooks, and how to  
tavanburen@tavanburen-VirtualBox:~$ grep -E '^[A-Z]|^[0-9]' Documents/Books/dracu  
la.txt
```

## Question 5



```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ awk -F ";" '{print $1,$9}' Documents/Csv/car
s.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
of YOUR TERMINAL ONLY showing all the commands that you used to
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ awk -F ";" '{OFS=" made in "}{print $1,$9}'
Documents/Csv/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
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ awk -F ";" '{print "The",$1,"has",$3,"cylind
ers 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
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ 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
```

```
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
tavanburen@tavanburen-VirtualBox:~$ awk '{print toupper($1)}' Documents/Csv/cars  
.CSV  
CAR;MPG;CYLINDERS;DISPLACEMENT;HORSEPOWER;WEIGHT;ACCELERATION;MODEL;ORIGIN  
STRING;DOUBLE;INT;DOUBLE;DOUBLE;DOUBLE;DOUBLE;INT;CAT  
CHEVROLET  
BUICK  
PLYMOUTH  
AMC  
FORD  
FORD  
CHEVROLET  
PLYMOUTH  
PONTIAC  
AMC  
CITROEN  
CHEVROLET  
FORD  
PLYMOUTH  
AMC  
DODGE  
PLYMOUTH  
FORD  
CHEVROLET  
BUICK
```

```
tavanburen@tavanburen-VirtualBox: ~  
File Edit View Search Terminal Help  
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subscribe to our email newsletter to hear about new eBooks.  
  
tavanburen@tavanburen-VirtualBox:~$ sed 's/Dracula/Alucard/' Documents/Books/dra  
cula.txt
```



```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ 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

tavanburen@tavanburen-VirtualBox: ~
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tavanburen@tavanburen-VirtualBox:~$ sed '/^$/d;G' Documents/Books/pride-and-prej
dice.txt
```

## Question 6

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ grep "bin/bash" /etc/passwd | wc -l
3
tavanburen@tavanburen-VirtualBox:~$ grep "/sbin/nologin" /etc/passwd | wc -l
40
tavanburen@tavanburen-VirtualBox:~$ grep -i "ford" Documents/Csv/Cars.csv | wc -l
1
grep: Documents/Csv/Cars.csv: No such file or directory
0
tavanburen@tavanburen-VirtualBox:~$ grep -i "ford" Documents/Csv/cars.csv | wc -l
1
53
tavanburen@tavanburen-VirtualBox:~$ grep -i -w -o '[a-z]..[a-z]' Documents/Books/bible.txt | wc -w
188252
tavanburen@tavanburen-VirtualBox:~$
```

## Challenge Question

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ awk -F ";" 'NR>3' Documents/Csv/cereal.csv |
cut -f 1 -d ";"
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

tavanburen@tavanburen-VirtualBox:~$ awk -F ";" 'NR>3' Documents/Csv/cereal.csv |
cut -f 1 -d ";" | sort > Documents/Csv/cereal-sorted.csv
tavanburen@tavanburen-VirtualBox:~$
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ cut -f 1,4 -d ";" Documents/Csv/cereal.csv |
awk 'NR>3'
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
```

```
tavanburen@tavanburen-VirtualBox: ~
File Edit View Search Terminal Help
tavanburen@tavanburen-VirtualBox:~$ cut -f 1,4 -d ";" --output-delimiter="," Doc
uments/Csv/cereal.csv | awk 'NR>3'
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
```