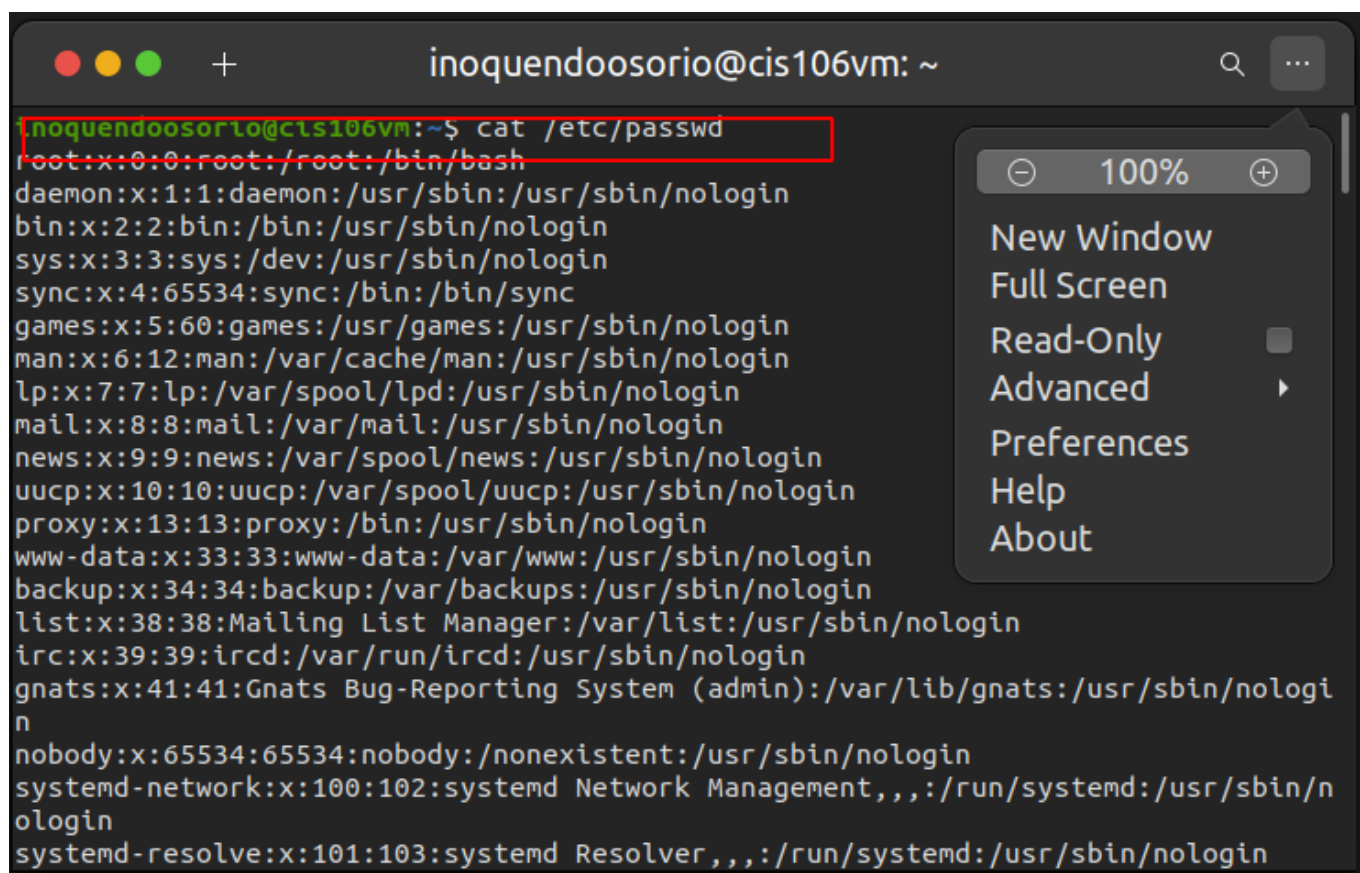
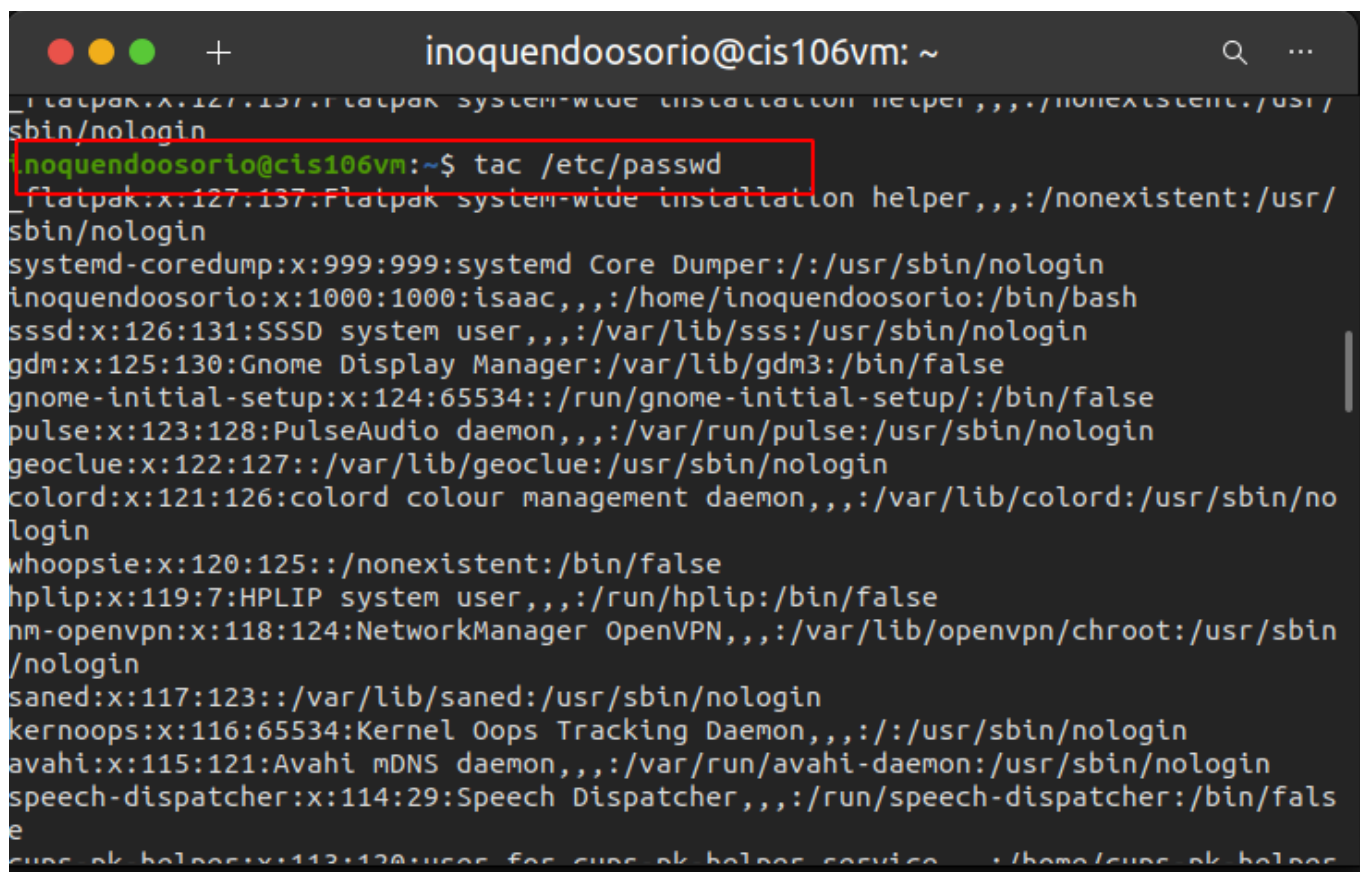


Lab 7 Handling Files

Question 1



```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@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: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
```



```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ tac /etc/passwd  
flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin  
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin  
inoquendoosorio:x:1000:1000:isaac,,,:/home/inoquendoosorio:/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-ppk-helper:x:113:120:user for cups-ppk-helper service:/home/cups-ppk-helper
```

```
inoquendoosorio@cis106vm: ~  
root:x:0:0:root:/root:/bin/bash  
inoquendoosorio@cis106vm:~$ cat /etc/passwd -En  
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/sbi  
n/nologin$  
18 nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin$  
19 systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/us  
r/sbin/nologin$
```

```
inoquendoosorio@cis106vm: ~  
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 inoquendoosorio:x:1000:1000:isaac,,,:/home/inoquendoosorio:/bin/bash$  
47 systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin$  
48 _flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexiste  
nt:/usr/sbin/nologin$  
inoquendoosorio@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  
inoquendoosorio@cis106vm:~$ tail -5 /etc/passwd  
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false  
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin  
inoquendoosorio:x:1000:1000:isaac,,,:/home/inoquendoosorio:/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  
inoquendoosorio@cis106vm:~$
```

Question 2

```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ cut -d ":" -f1 /etc/passwd  
root  
daemon  
bin  
sys  
sync  
games  
man  
lp  
mail  
news  
uucp  
proxy  
www-data  
backup  
list  
irc  
gnats  
nobody  
systemd-network  
systemd-resolve  
systemd-timesync  
messagebus
```

```
inoquendoosorio@cis106vm: ~  
flatpak  
inoquendoosorio@cis106vm:~$ cut -d ":" -f1,7 /etc/passwd  
root:/bin/bash  
daemon:/usr/sbin/nologin  
bin:/usr/sbin/nologin  
sys:/usr/sbin/nologin  
sync:/bin/sync  
games:/usr/sbin/nologin  
man:/usr/sbin/nologin  
lp:/usr/sbin/nologin  
mail:/usr/sbin/nologin  
news:/usr/sbin/nologin  
uucp:/usr/sbin/nologin  
proxy:/usr/sbin/nologin  
www-data:/usr/sbin/nologin  
backup:/usr/sbin/nologin  
list:/usr/sbin/nologin  
irc:/usr/sbin/nologin  
gnats:/usr/sbin/nologin  
nobody:/usr/sbin/nologin  
systemd-network:/usr/sbin/nologin  
systemd-resolve:/usr/sbin/nologin  
systemd-timesync:/usr/sbin/nologin
```

```
inoquendoosorio@cis106vm: ~  
flatpak - /usr/sbin/nologin  
inoquendoosorio@cis106vm:~$ cut -d ":" -f1,7 --output-delimiter=" = " /etc/passwd  
root = /bin/bash  
daemon = /usr/sbin/nologin  
bin = /usr/sbin/nologin  
sys = /usr/sbin/nologin  
sync = /bin/sync  
games = /usr/sbin/nologin  
man = /usr/sbin/nologin  
lp = /usr/sbin/nologin  
mail = /usr/sbin/nologin  
news = /usr/sbin/nologin  
uucp = /usr/sbin/nologin  
proxy = /usr/sbin/nologin  
www-data = /usr/sbin/nologin  
backup = /usr/sbin/nologin  
list = /usr/sbin/nologin  
irc = /usr/sbin/nologin  
gnats = /usr/sbin/nologin  
nobody = /usr/sbin/nologin  
systemd-network = /usr/sbin/nologin  
systemd-resolve = /usr/sbin/nologin  
systemd-timesync = /usr/sbin/nologin  
messagebus = /usr/sbin/nologin
```

```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ cut -d ":" --complement -f3 /etc/passwd  
root:x:0:root:/root:/bin/bash  
daemon:x:1:daemon:/usr/sbin:/usr/sbin/nologin  
bin:x:2:bin:/bin:/usr/sbin/nologin  
sys:x:3:sys:/dev:/usr/sbin/nologin  
sync:x:65534:sync:/bin:/bin/sync  
games:x:60:games:/usr/games:/usr/sbin/nologin  
man:x:12:man:/var/cache/man:/usr/sbin/nologin  
lp:x:7:lp:/var/spool/lpd:/usr/sbin/nologin  
mail:x:8:mail:/var/mail:/usr/sbin/nologin  
news:x:9:news:/var/spool/news:/usr/sbin/nologin  
uucp:x:10:uucp:/var/spool/uucp:/usr/sbin/nologin  
proxy:x:13:proxy:/bin:/usr/sbin/nologin  
www-data:x:33:www-data:/var/www:/usr/sbin/nologin  
backup:x:34:backup:/var/backups:/usr/sbin/nologin  
list:x:38:Mailing List Manager:/var/list:/usr/sbin/nologin  
irc:x:39:ircd:/var/run/ircd:/usr/sbin/nologin  
gnats:x:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin  
nobody:x:65534:nobody:/nonexistent:/usr/sbin/nologin  
systemd-network:x:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin  
systemd-resolve:x:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin  
systemd-timesync:x:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
```

Question 3


```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ curl -s https://cis106.com/assets/shopping.md -o shopping.md  
inoquendoosorio@cis106vm:~$ curl -s https://cis106.com/assets/tasks.md -o tasks.md  
inoquendoosorio@cis106vm:~$ paste shopping.md tasks.md  
## Shopping      ## Tasks  
1. Apples:       1. Do Laundry:  
2. Meat:         2. Cook lunch:  
3. Bread:        3. Clean room:  
inoquendoosorio@cis106vm:~$ wc Documents/Books/dracula.txt -l  
15860 Documents/Books/dracula.txt  
inoquendoosorio@cis106vm:~$ wc Documents/Books/pride-and-prejudice.txt -w  
124749 Documents/Books/pride-and-prejudice.txt  
inoquendoosorio@cis106vm:~$ 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
```

Question 4

```

inoquendoosorio@cis106vm: ~
Wheaties Honey Gold;G;C;110;2;1;200;1;16;8;60;25;1;1;0.75;36.187559
inoquendoosorio@cis106vm:~$ cat Documents/Csv/cereal.csv | tr ';' ','
name,mfr,type,calories,protein,fat,sodium,fiber,carbo,sugars,potass,vitamins,she
lf,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
Cocoa Puffs,G,C,110,1,1,180,0,12,13,55,25,2,1,1,22.736446
Corn Chex,R,C,110,2,0,280,0,22,3,25,25,1,1,1,41.445019
Corn Flakes,K,C,100,2,0,290,1,21,2,35,25,1,1,1,45.863324
Corn Pops,K,C,110,1,0,90,1,13,12,20,25,2,1,1,35.782791

```

```

inoquendoosorio@cis106vm: ~
inoquendoosorio@cis106vm:~$ ls Documents/Books/
bible.txt great-expectations.txt war-and-peace.txt
dracula.txt pride-and-prejudice.txt
inoquendoosorio@cis106vm:~$ grep -i "love" Documents/Books/pride-and-prejudice.t
xt
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."
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."
bit of fish to be got to-day. Lydia, my love, ring the bell-I
His plan did not vary on seeing them. Miss Bennet's lovely face
likelihood undo the effects of your loveliness and amiable
to your wish of increasing my love by suspense, according to the
successful love; for Mrs. Bennet, having dawdled about in the

```

```
inoquendoosorio@cis106vm: ~  
Mr. Darcy sends you all the love in the world that he can spare  
all her earnest desire of being loved by her sister.  
"I wish you joy. If you love Mr. Darcy half as well as I do my  
to love each other even as well as they intended. Georgiana had  
Darcy, as well as Elizabeth, really loved them; and they were  
inoquendoosorio@cis106vm:~$ grep -Ew "love|hate" Documents/Books/pride-and-preju  
dice.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."  
"And _your_ defect is to hate everybody."  
bit of fish to be got to-day. Lydia, my love, ring the bell—I  
I hate such false friends. Why could he not keep on quarreling
```

```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ grep -ni '^love' Documents/Books/dracula.txt  
2329:loves 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."  
inoquendoosorio@cis106vm:~$
```

```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ grep -n 'l[aeiou][a-z][aeiou]' Documents/Books/dracula.txt  
6:of the Project Gutenberg License included with this eBook or online at  
7:www.gutenberg.org. If you are not located in the United States, you  
8:will have to check the laws of the country where you are located before  
22:Produced by: Chuck Greif and the Online Distributed Proofreading Team  
111:hour late. Buda-Pesth seems a wonderful place, from the glimpse which I  
114:late and would start as near the correct time as possible. The  
133:nobleman of that country. I find that the district he named is in the  
137:not able to light on any map or work giving the exact locality of the  
140:town named by Count Dracula, is a fairly well-known place. I shall enter  
144:In the population of Transylvania there are four distinct nationalities:  
149:the country in the eleventh century they found the Huns settled in it. I  
162:which they said was "mamaliga," and egg-plant stuffed with forcemeat, a  
163:very excellent dish, which they call "impletata." (_Mem._, get recipe  
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  
185:Slovaks, who were more barbarian than the rest, with their big cow-boy  
186:hats, great baggy dirty-white trousers, white linen shirts, and enormous  
196:very interesting old place. Being practically on the frontier--for the  
199:of great fires took place, which made terrible havoc on five separate  
210:fitting almost too tight for modesty. When I came close she bowed and  
213:who had followed her to the door. He went, but immediately returned with  
217:    you. Sleep well to-night. At three to-morrow the diligence will  
218:    start for Bukovina; a place on it is kept for you. At the Borgo
```

Question 5


```
inoquendoosorio@cis106vm: ~/Documents/Csv
inoquendoosorio@cis106vm:~/Documents/Csv$ ls
cars.csv cereal.csv contacts.csv country.csv film.csv
inoquendoosorio@cis106vm:~/Documents/Csv$ awk -F ";" '{print $1, $NF}' cars.csv
Car Origin
STRING CAT
Chevrolet Chevelle Malibu US
Buick Skylark 320 US
Plymouth Satellite US
AMC Rebel SST US
Ford Torino US
Ford Galaxie 500 US
Chevrolet Impala US
Plymouth Fury iii US
Pontiac Catalina US
AMC Ambassador DPL US
Citroen DS-21 Pallas Europe
Chevrolet Chevelle Concours (sw) US
Ford Torino (sw) US
Plymouth Satellite (sw) US
AMC Rebel SST (sw) US
Dodge Challenger SE US
Plymouth 'Cuda 340 US
Ford Mustang Boss 302 US
Chevrolet Monte Carlo US
```

```
inoquendoosorio@cis106vm: ~/Documents/Csv
inoquendoosorio@cis106vm:~/Documents/Csv$ awk -F ";" '{OFS=" made on "}{print $1, $NF}' cars.csv
Car made on Origin
STRING made on CAT
Chevrolet Chevelle Malibu made on US
Buick Skylark 320 made on US
Plymouth Satellite made on US
AMC Rebel SST made on US
Ford Torino made on US
Ford Galaxie 500 made on US
Chevrolet Impala made on US
Plymouth Fury iii made on US
Pontiac Catalina made on US
AMC Ambassador DPL made on US
Citroen DS-21 Pallas made on Europe
Chevrolet Chevelle Concours (sw) made on US
Ford Torino (sw) made on US
Plymouth Satellite (sw) made on US
AMC Rebel SST (sw) made on US
Dodge Challenger SE made on US
Plymouth 'Cuda 340 made on US
Ford Mustang Boss 302 made on US
Chevrolet Monte Carlo made on US
Buick Estate Wagon (sw) made on US
```

```

inoquendoosorio@cis106vm: ~/Documents/Csv
inoquendoosorio@cis106vm:~/Documents/Csv$ head 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
inoquendoosorio@cis106vm:~/Documents/Csv$ awk -F ";" '{print "The",$1,"has",$3,"cylinders","and is made in",$NF}' cars.csv
The Car has Cylinders cylinders and is made in Origin
The STRING has INT cylinders and is made in CAT
The Chevrolet Chevelle Malibu has 8 cylinders and is made in US
The Buick Skylark 320 has 8 cylinders and is made in US
The Plymouth Satellite has 8 cylinders and is made in US
The AMC Rebel SST has 8 cylinders and is made in US
The Ford Torino has 8 cylinders and is made in US
The Ford Galaxie 500 has 8 cylinders and is made in US
The Chevrolet Impala has 8 cylinders and is made in US
The Plymouth Fury iii has 8 cylinders and is made in US
The Pontiac Catalina has 8 cylinders and is made in US
The AMC Ambassador DPL has 8 cylinders and is made in US

```

```

inoquendoosorio@cis106vm: ~/Documents/Csv
inoquendoosorio@cis106vm:~/Documents/Csv$ head cars.csv
Car;MPG;Cylinders;Displacement;Horsepower;Weight;Acceleration;Model;Origin
STRING;DOUBLE;INT;DOUBLE;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
inoquendoosorio@cis106vm:~/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
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

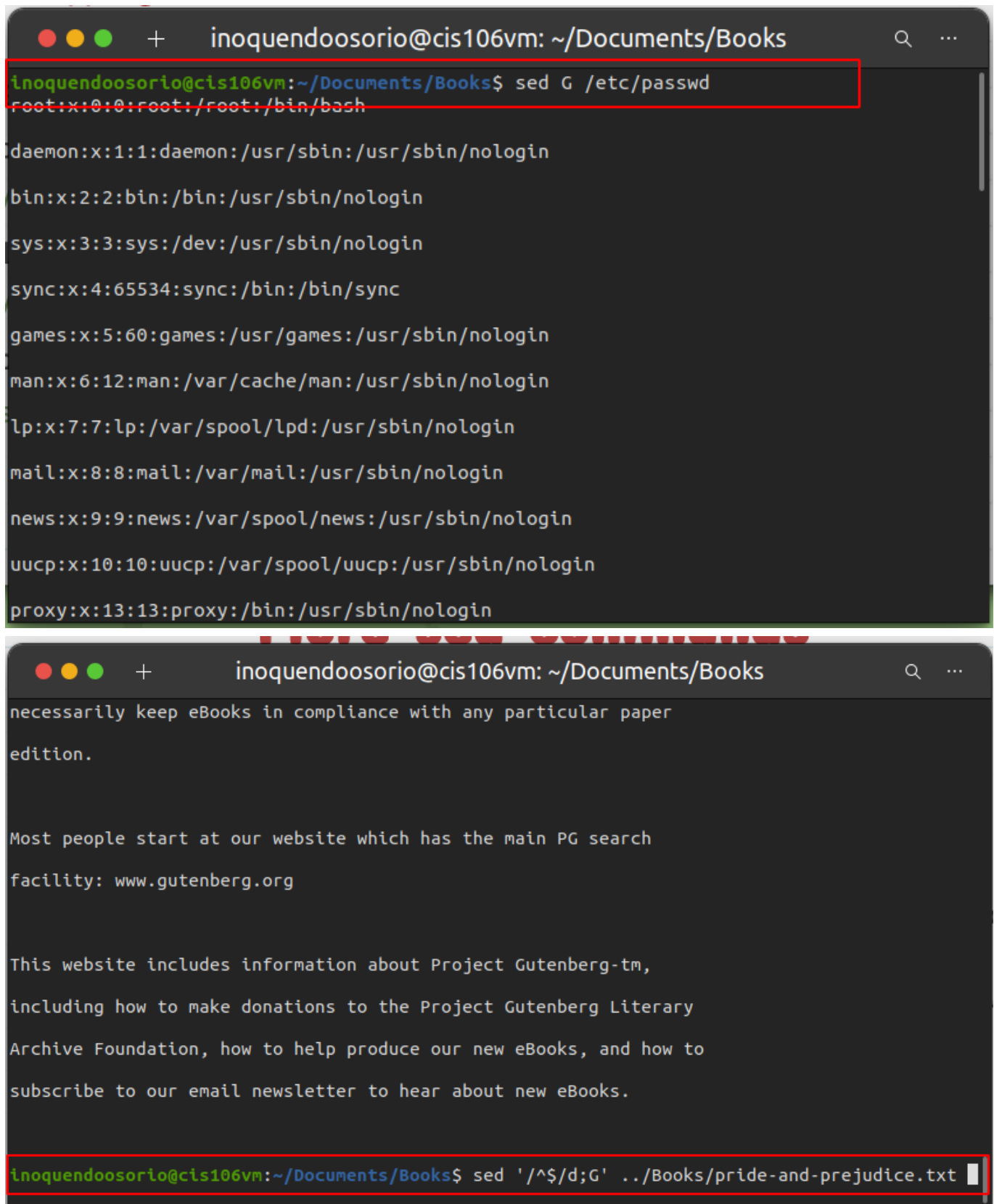
```

```
inoquendoosorio@cis106vm: ~/Documents/Csv
inoquendoosorio@cis106vm:~/Documents/Csv$ awk -F ";" '{print toupper($1)}' cars.csv
CAR
STRING
CHEVROLET CHEVELLE MALIBU
BUICK SKYLARK 320
PLYMOUTH SATELLITE
AMC REBEL SST
FORD TORINO
FORD GALAXIE 500
CHEVROLET IMPALA
PLYMOUTH FURY III
PONTIAC CATALINA
AMC AMBASSADOR DPL
CITROEN DS-21 PALLAS
CHEVROLET CHEVELLE CONCOURS (SW)
FORD TORINO (SW)
PLYMOUTH SATELLITE (SW)
AMC REBEL SST (SW)
DODGE CHALLENGER SE
PLYMOUTH 'CUDA 340
FORD MUSTANG BOSS 302
CHEVROLET MONTE CARLO
BUICK ESTATE WAGON (SW)
TOYOTA COROLLA MARK II
```

```
inoquendoosorio@cis106vm: ~/Documents/Books
Most people start at our website which has the main PG search
facility: www.gutenberg.org

This website includes information about Project Gutenberg-tm,
including how to make donations to the Project Gutenberg Literary
Archive Foundation, how to help produce our new eBooks, and how to
subscribe to our email newsletter to hear about new eBooks.

inoquendoosorio@cis106vm:~/Documents/Books$ sed 's/Dracula/Alucard/' dracula.txt | g
rep -i "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;
Alucard, jumping to his feet, said:--
Alucard, as it may help me to understand. To-night he may talk of
the Turk on his own ground? This was a Alucard indeed! Woe was it that
Turk and brought the shame of slavery on them! Was it not this Alucard,
Hungarian yoke, we of the Alucard blood were amongst their leaders, for
```



```
inoquendoosorio@cis106vm: ~/Documents/Books
inoquendoosorio@cis106vm:~/Documents/Books$ 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

necessarily keep eBooks in compliance with any particular paper
edition.

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

This website includes information about Project Gutenberg-tm,
including how to make donations to the Project Gutenberg Literary
Archive Foundation, how to help produce our new eBooks, and how to
subscribe to our email newsletter to hear about new eBooks.

inoquendoosorio@cis106vm:~/Documents/Books$ sed '/^$/d;G' ../Books/pride-and-prejudice.txt
```

Question 6


```
inoquendoosorio@cis106vm: ~  
inoquendoosorio@cis106vm:~$ grep -n "/bin/bash" /etc/passwd  
1:root:x:0:0:root:/root:/bin/bash  
46:inoquendoosorio:x:1000:1000:isaac,,,:/home/inoquendoosorio:/bin/bash  
inoquendoosorio@cis106vm:~$ grep -n "/bin/bash" /etc/passwd | wc -l  
2  
inoquendoosorio@cis106vm:~$ grep -n "/sbin/nologin" /etc/passwd | wc -l  
39  
inoquendoosorio@cis106vm:~$ grep -i "ford" Documents/Csv/cars.csv | wc -l  
53  
inoquendoosorio@cis106vm:~$ grep -nico '[a-z][a-z][a-z][a-z]' Documents/Books/bible.txt  
31102  
inoquendoosorio@cis106vm:~$  
  
31102:of o  
31102:ur L  
31102:rd J  
31102:esus  
31102:Chri  
31102:st b  
31102:e wi  
31102:th y  
31102:ou a  
31102:l. A  
inoquendoosorio@cis106vm:~$ grep -nioc '[a-z]..[a-z]' Documents/Books/bible.txt  
31102  
inoquendoosorio@cis106vm:~$ grep -nioc '[a-z][a-z][a-z][a-z]' Documents/Books/bible.txt  
31102  
inoquendoosorio@cis106vm:~$
```

Challenge Question

```

inoquendoosorio@cis106vm: ~
inoquendoosorio@cis106vm:~$ head Documents/Csv/cereal.csv
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cu
ps;rating
String;Categorical;Categorical;Int;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;C;C;130;3;2;210;2;18;8;100;25;3;1.33;0.75;37.038562
inoquendoosorio@cis106vm:~$ awk -F ";" 'NR > 3 {print $1}' Documents/Csv/cereal.csv
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

Shredded Wheat spoon size
Smacks
Special K
Strawberry Fruit Wheats
Total Corn Flakes
Total Raisin Bran
Total Whole Grain
Triples
Trix
Wheat Chex
inoquendoosorio@cis106vm:~$ awk -F ";" 'NR > 3 {print $1}' Documents/Csv/cereal.csv | sort > cereal-
sorted.csv
inoquendoosorio@cis106vm:~$ head cereal-sorted.csv
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
inoquendoosorio@cis106vm:~$ 

```

```

inoquendoosorio@cis106vm: ~
Almond Delight
Apple Cinnamon Cheerios
Apple Jacks
Basic 4
Bran Chex
Bran Flakes
Cap'n'Crunch
inoquendoosorio@cis106vm:~$ awk -F ";" 'NR > 3 {print "The", $1,"contains", $4,"total calories"}' Documents/Csv/cereal.csv
The 100% Natural Bran contains 120 total calories
The All-Bran contains 70 total calories
The All-Bran with Extra Fiber contains 50 total calories
The Almond Delight contains 110 total calories
The Apple Cinnamon Cheerios contains 110 total calories
The Apple Jacks contains 110 total calories
The Basic 4 contains 130 total calories
The Bran Chex contains 90 total calories
The Bran Flakes contains 90 total calories
The Cap'n'Crunch contains 120 total calories
The Cheerios contains 110 total calories
The Cinnamon Toast Crunch contains 120 total calories
The Clusters contains 110 total calories
The Cocoa Puffs contains 110 total calories
The Corn Chex contains 110 total calories
The Corn Flakes contains 100 total calories

```

```

inoquendoosorio@cis106vm: ~
The,Total Natural Bran,contains,140,total calories
The,Total Whole Grain,contains,100,total calories
The,Triples,contains,110,total calories
The,Trix,contains,110,total calories
The,Wheat Chex,contains,100,total calories
The,Wheaties,contains,100,total calories
The,Wheaties Honey Gold,contains,110,total calories
inoquendoosorio@cis106vm:~$ awk -F ";" 'NR > 3 {OFS=" , " } {print "The", $1,"contains", $4,"total calories"}' Documents/Csv/cereal.csv
The name contains calories total calories
The String contains Int total calories
The 100% Bran contains 70 total calories
The , 100% Natural Bran , contains , 120 , total calories
The , All-Bran , contains , 70 , total calories
The , All-Bran with Extra Fiber , contains , 50 , total calories
The , Almond Delight , contains , 110 , total calories
The , Apple Cinnamon Cheerios , contains , 110 , total calories
The , Apple Jacks , contains , 110 , total calories
The , Basic 4 , contains , 130 , total calories
The , Bran Chex , contains , 90 , total calories
The , Bran Flakes , contains , 90 , total calories
The , Cap'n'Crunch , contains , 120 , total calories
The , Cheerios , contains , 110 , total calories
The , Cinnamon Toast Crunch , contains , 120 , total calories
The , Clusters , contains , 110 , total calories

```