Lab 7 - Handling files Submission

Question 1 cat, tac, head, tail

1. Display the content of the `/etc/passwd` file.

```
espaghetty@Emperior:~$ 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/no
login
mail:x:8:8:mail:/var/mail:/usr/sbin/nol
ogin
news:x:9:9:news:/var/spool/news:/usr/sb
in/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/
sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nolo
gin
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/no
login
gnats:x:41:41:Gnats Bug-Reporting Syste
m (admin):/var/lib/gnats:/usr/sbin/nolo
gin
nobody:x:65534:65534:nobody:/nonexisten
t:/usr/sbin/nologin
systemd-network:x:100:102:systemd Netwo
rk Management,,,:/run/systemd:/usr/sbin
/nologin
systemd-resolve:x:101:103:systemd Resol
ver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105::/nonexistent:/usr
/sbin/nologin
systemd-timesync:x:103:106:systemd Time
 Synchronization,,,:/run/systemd:/usr/s
bin/nologin
syslog:x:104:111::/home/syslog:/usr/sbi
```

2. Display the content of the `/etc/passwd` file in reverse order.

```
espaghetty@Emperior:~$ tac /etc/passwd
vboxadd:x:999:1::/var/run/vboxadd:/bin/false
_flatpak:x:129:138:Flatpak system-wide installation helper,,,:/
nonexistent:/usr/sbin/nologin
espaghetty:x:1000:1000:espaghetty,,,:/home/espaghetty:/bin/bash
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gnome-initial-setup:x:126:65534::/run/gnome-initial-setup/:/bin
/false
pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nolog
in
geoclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,,:/var/lib/co
lord:/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
```

3. Display the content of the `/etc/passwd` file with line numbers and the $ to indicate the end of every line.

```
1: espaghetty@Emperior: ~ ∨                                                                    A⌶  ⊡   ✕
espaghetty@Emperior:~$ cat -E /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$
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$
uuidd:x:107:116::/run/uuidd:/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/nologi
n$
rtkit: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$
```

4. Display the first 5 lines of a the `/etc/passwd` file.

```
1: espaghetty@Emperior: ~ ∨                                                            □    ×
espaghetty@Emperior:~$ 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
espaghetty@Emperior:~$ 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
espaghetty:x:1000:1000:espaghetty,,,:/home/espaghetty:/bin/bash
_flatpak:x:129:138:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
vboxadd:x:999:1::/var/run/vboxadd:/bin/false
espaghetty@Emperior:~$ _
```

Question 2 cut

1. Display the first field of the `/etc/passwd` file.

```
_flatpak:129
vboxadd:999
espaghetty@Emperior:~$ 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
messagebus
systemd-timesync
syslog
_apt
tss
uuidd
systemd-oom
tcpdump
avahi-autoipd
usbmux
dnsmasq
kernoops
avahi
cups-pk-helper
rtkit
whoopsie
sssd
speech-dispatcher
fwupd-refresh
nm-openvpn
saned
colord
```

2. Display the first and last field of the `/etc/passwd` file

```
espaghetty@Emperior:~$ 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
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
whoopsie:/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
```

3. Display the first and last field of the `/etc/passwd` file with the `=` as the output delimiter.

```
_flatpak =>/usr/sbin/nologin
vboxadd =>/bin/false
espaghetty@Emperior:~$ 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
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
whoopsie =/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
```

4. Display all the fields of the `/etc/passwd` file except the 3rd field.
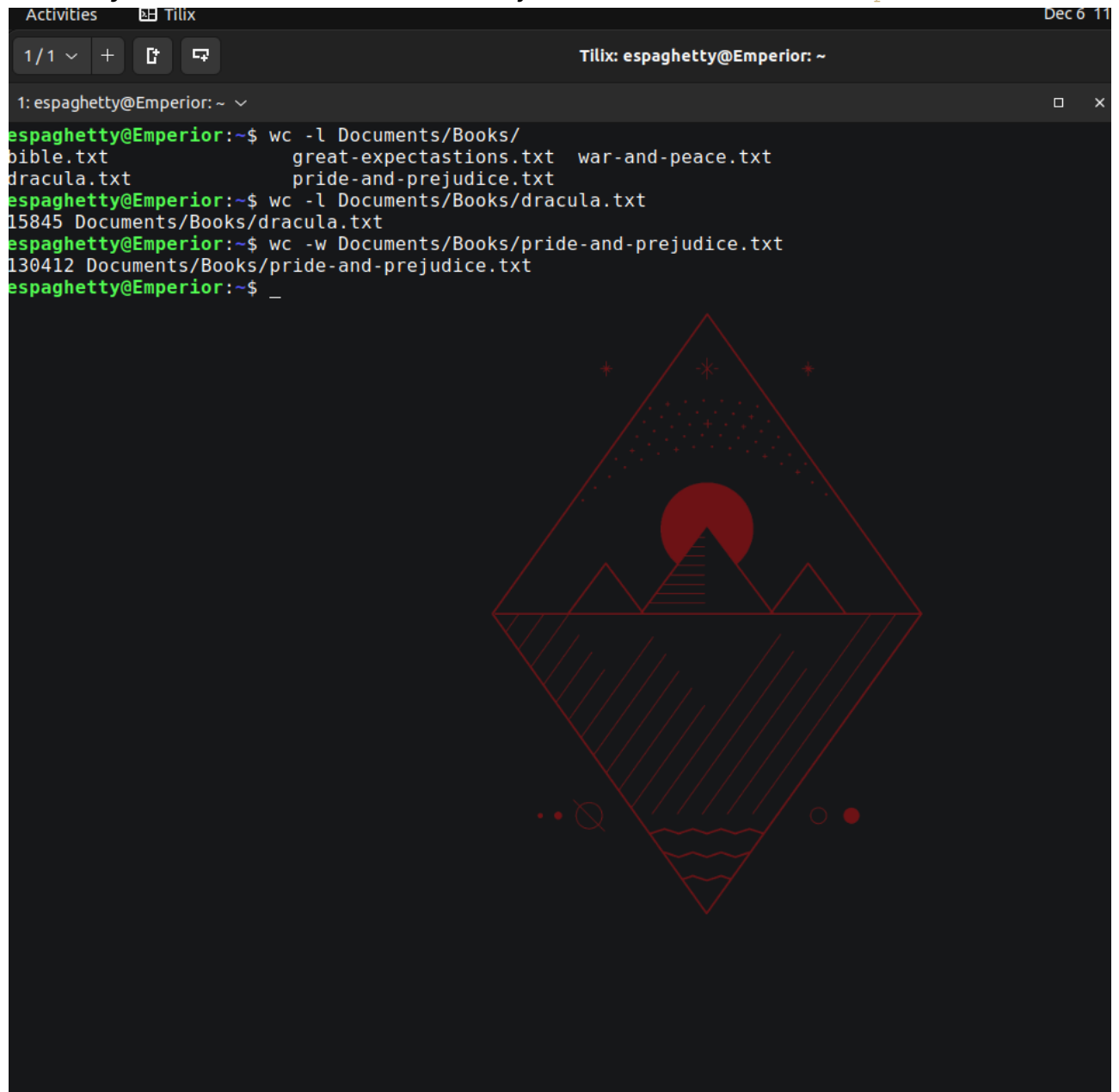
```
espaghetty@Emperior:~$ cut -d ':' --complement -f3 /etc/passwd
root:x:0:root:/root:/bin/bash
daemon:x:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:bin:/bin:/usr/sbin/nologin
sys:x:3:sys:/dev:/usr/sbin/nologin
sync:x:65534:sync:/bin:/bin/sync
games:x:60:games:/usr/games:/usr/sbin/nologin
man:x:12:man:/var/cache/man:/usr/sbin/nologin
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:/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
uuidd:x:116::/run/uuidd:/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 autoip 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:SSSD 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
nm-openvpn:x:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/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
```

Question 3

1. Download these files using curl. Use the command: `curl -s URL-here -o name-of-file` where
   the name of the file is the one given in the URL. After Downloading the files, paste the files
   https://cis106.com/assets/shopping.txt https://cis106.com/assets/tasks.txt
2. How many lines does the book dracula book have?

3. How many words does the book "Pride and Prejudice" have? Sort the file `/etc/passwd`

```
espaghetty@Emperior:~$ wc -l Documents/Books/
bible.txt              great-expectastions.txt  war-and-peace.txt
dracula.txt            pride-and-prejudice.txt
espaghetty@Emperior:~$ wc -l Documents/Books/dracula.txt
15845 Documents/Books/dracula.txt
espaghetty@Emperior:~$ wc -w Documents/Books/pride-and-prejudice.txt
130412 Documents/Books/pride-and-prejudice.txt
espaghetty@Emperior:~$ _
```

Question 4 tr, grep

1. Replace the `;` for a `,` in the `cereal.csv` file

```
espaghetty@Emperior:~$ cat Documents/Csv/cereal.csv | tr ';' ','
name,mfr,type,calories,protein,fat,sodium,fiber,carbo,sugars,potass,vitamins,shelf,weight
ting
String,Categorical,Categorical,Int,Int,Int,Int,Float,Float,Int,Int,Int,Int,Float,Float,Fl
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
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,-1,0,2,1,1,64.533816
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,120,3,2,160,5,12,10,200,25,3,1.25,0.67,40.9170
Fruitful 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,120,3,3,75,3,13,4,100,25,3,1,0.33,45.811716
Honey Graham Ohs,Q,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,110,2,1,170,1,17,6,60,100,3,1,1,36.523683
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,110,2,1,260,0,21,3,40,25,2,1,1.5,39.241114
```

2. Display every line that contain the word love in the book *"Pride and Prejudice"*

```
1: espaghetty@Emperior: ~/Documents ⌄                                          A⌶ □  ×
espaghetty@Emperior:~/Documents$ grep -in 'Pride and Prejudice' Books/pride-and-prejudice.txt
1:The Project Gutenberg eBook of Pride and prejudice, by Jane Austen
11:Title: Pride and prejudice
24:*** START OF THE PROJECT GUTENBERG EBOOK PRIDE AND PREJUDICE ***
133:I, for my part, declare for_ Pride and Prejudice _unhesitatingly. It
167:the playwright has ever been laid upon_ Pride and Prejudice; _and I dare
186:should put_ Pride and Prejudice _far lower if it did not contain what
355:_The goodness of the minor characters in_ Pride and Prejudice _has been
694:[Illustration: ·PRIDE AND PREJUDICE·
14560:*** END OF THE PROJECT GUTENBERG EBOOK PRIDE AND PREJUDICE ***
espaghetty@Emperior:~/Documents$ grep -niE 'love|hate' 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
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."
1991:"To walk three miles, or four miles, or five miles, or whatever it is,
2165:to employ for captivation. Whatever bears affinity to cunning is
2245:"Whatever I do is done in a hurry," replied he; "and therefore if I
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
2572:thankful; and then you may say whatever you like of me."
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
```

3. Display every line that contains exactly the word love or hate in the book *"Pride and Prejudice"* with line numbers

4. Display every line that starts exactly with the word **"love"** in the book Dracula. Display every line that starts with an upper case letter or a number in the book Dracula.

```
1: espaghetty@Emperior: ~/Documents ⌄                                    A⌶ ◻
espaghetty@Emperior:~/Documents$ grep -i '^love' 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."
espaghetty@Emperior:~/Documents$ grep -n '^[A-Z]' 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
```
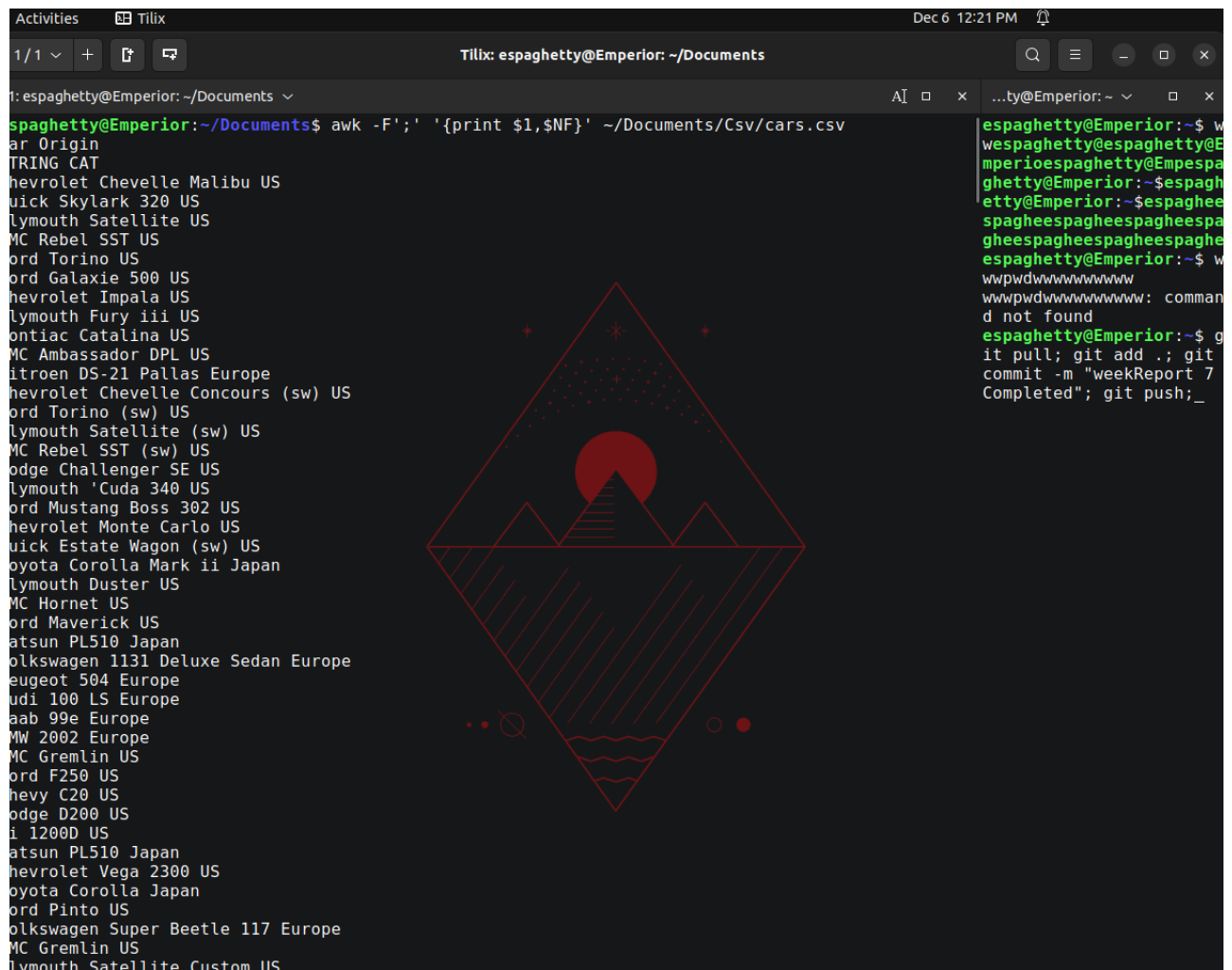
```
15842:Archive Foundation, how to help produce our new eBooks, and how to
espaghetty@Emperior:~/Documents$ grep -n '[0-9]' Books/dracula.txt
15:Release Date: October, 1995 [eBook #345]
16:[Most recently updated: November 12, 2023]
41:        Copyright, 1897, in the United States of America, according
70:CHAPTER VII. Cutting from "The Dailygraph," 8 August
118:_3 May. Bistritz._--Left Munich at 8:35 P. M., on 1st May, arriving at
119:Vienna early next morning; should have arrived at 6:46, but train was an
175:the station at 7:30 I had to sit in the carriage for more than an hour
210:a siege of three weeks and lost 13,000 people, the casualties of war
237:_4 May._--I found that my landlord had got a letter from the Count,
294:_5 May. The Castle._--The grey of the morning has passed, and the sun is
622:_5 May._--I must have been asleep, for certainly if I had been fully
804:_7 May._--It is again early morning, but I have rested and enjoyed the
1052:_8 May._--I began to fear as I wrote in this book that I was getting too
1240:_12 May. --Let me begin with facts--bare, meagre facts, verified by
1342:One of the letters was directed to Samuel F. Billington, No. 7, The
1420:_15 May._--Once more have I seen the Count go out in his lizard fashion.
1476:_Later: the Morning of 16 May._--God preserve my sanity, for to this I
1642:_18 May._--I have been down to look at that room again in daylight, for
1651:_19 May._--I am surely in the toils. Last night the Count asked me in
1673:"The first should be June 12, the second June 19, and the third June
1674:29."
1680:_28 May._--There is a chance of escape, or at any rate of being able to
1749:_31 May._--This morning when I woke I thought I would provide myself
1766:_17 June._--This morning, as I was sitting on the edge of my bed
1792:_24 June, before morning._--Last night the Count left me early, and
1880:_25 June, morning._--No man knows till he has suffered from the night
1977:_29 June._--To-day is the date of my last letter, and the Count has
2073:_30 June, morning._--These may be the last words I ever write in this
2193:"_9 May._
2235:"_17, Chatham Street_,
2289:"_24 May_.
2461: 25 May. --Ebb tide in appetite to-day. Cannot eat, cannot rest, so
```

Question 5 awk and sed

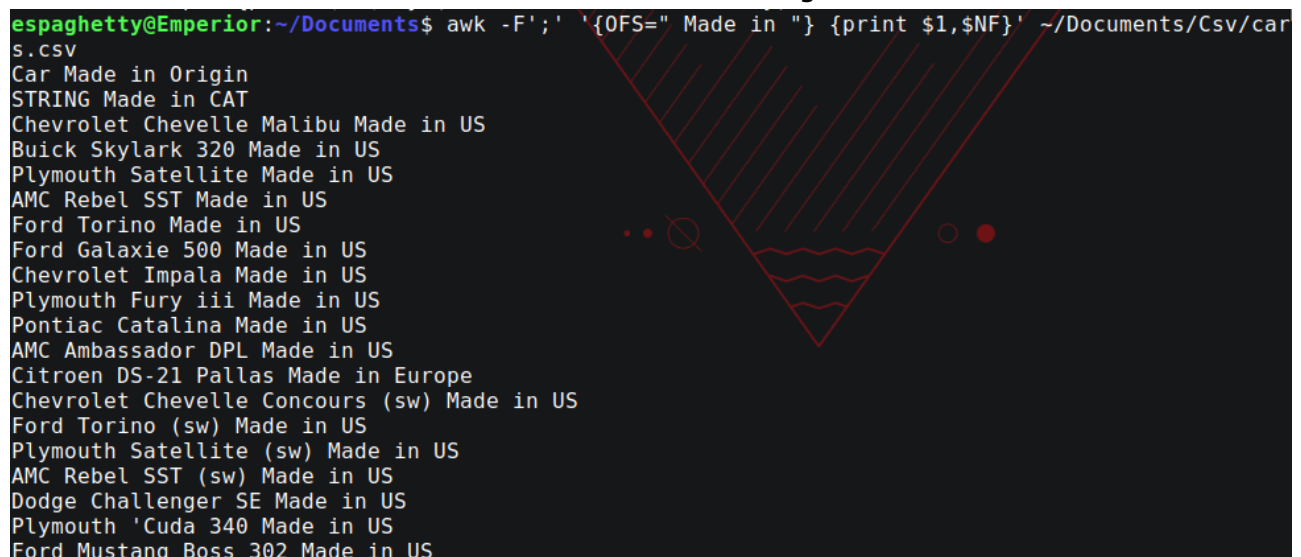1. Print the first and last field of the `cars.csv` file

2. Print the first and last field of the `cars.csv` file with the string `" made in "` as a delimiter

3. Print the `cars.csv` file in such a way that the output looks like this for every line:

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

```
1/1 ∨  +  ⬚  ⬚                    Tilix: espaghetty@Emperior: ~/Documents
1: espaghetty@Emperior: ~/Documents ∨                                    A⌶ ◻ ✕
the Toyota Celica GT has 4 and is made in Japan
the Dodge Charger 2.2 has 4 and is made in US
the Chevrolet Camaro has 4 and is made in US
the Ford Mustang GL has 4 and is made in US
the Volkswagen Pickup has 4 and is made in Europe
the Dodge Rampage has 4 and is made in US
the Ford Ranger has 4 and is made in US
the Chevy S-10 has 4 and is made in US
espaghetty@Emperior:~/Documents$ awk -F';' '{print "the " $1,"has",$3,"Cylinders and is made in"
,$NF}' 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
```

4. Print the `cars.csv` file excluding the first 2 records (lines).

```
Ford Ranger;28.0;4;120.0;79.00;2625.;18.6;82;US
Chevy S-10;31.0;4;119.0;82.00;2720.;19.4;82;US
espaghetty@Emperior:~/Documents$ awk -F';' 'NR > 3{print "the " $1,"has",$3,"Cylinders and is mad
e in" ,$NF}' Csv/cars.csv
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
```

5. Print all the car names in upper case.

```
espaghetty@Emperior:~/Documents$ awk -F: '{print toupper($1)}' 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
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
CHEVROLET VEGA 2300;28.0;4;140.0;90.00;2264.;15.5;71;US
TOYOTA COROLLA;25.0;4;113.0;95.00;2228.;14.0;71;JAPAN
```

6. Replace all the instances of the word `Dracula` for the word `Alucard` in the book dracula.

```
considerable effort, much paperwork and many fees to meet and keep up
with these requirements. We do not solicit donations in locations
where we have not received written confirmation of compliance. To SEND
DONATIONS or determine the status of compliance for any particular
state visit www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we
have not met the solicitation requirements, we know of no prohibition
against accepting unsolicited donations from donors in such states who
approach us with offers to donate.

International donations are gratefully accepted, but we cannot make
any statements concerning tax treatment of donations received from
outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation
methods and addresses. Donations are accepted in a number of other
ways including checks, online payments and credit card donations. To
donate, please visit: www.gutenberg.org/donate.

Section 5. General Information About Project Gutenberg™ electronic works

Professor Michael S. Hart was the originator of the Project
Gutenberg™ concept of a library of electronic works that could be
freely shared with anyone. For forty years, he produced and
distributed Project Gutenberg™ eBooks with only a loose network of
volunteer support.

Project Gutenberg™ eBooks are often created from several printed
editions, all of which are confirmed as not protected by copyright in
the U.S. unless a copyright notice is included. Thus, we do not
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™,
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.

espaghetty@Emperior:~/Documents$ sed 's/Dracula/Alucard/g' Books/dracula.txt_
```

7. Insert a blank line after each line in the `/etc/passwd` file

```
7. No such file or directory
espaghetty@Emperior:~/Documents$ sed '/ /{x;p;x}' /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

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
```

8. Replace all the repeated blank lines for a single blank line in the book "Pride and Prejudice"

```
Activities      Tilix                                                              Dec 6  1:

1/1  +   G   Q                     Tilix: espaghetty@Emperior: ~/Documents

1: espaghetty@Emperior: ~/Documents                                              □    ×

Professor Michael S. Hart was the originator of the Project
Gutenberg-tm concept of a library of electronic works that could be
freely shared with anyone. For forty years, he produced and
distributed Project Gutenberg-tm eBooks with only a loose network of
volunteer support.

Project Gutenberg-tm eBooks are often created from several printed
editions, all of which are confirmed as not protected by copyright in
the U.S. unless a copyright notice is included. Thus, we do not
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.
espaghetty@Emperior:~/Documents$ sed 's/  / /g' Books/pride-and-prejudice.txt _
```

Question 6 I/O Redirection

1. How many users can login with the `/bin/bash` shell?

```
espaghetty@Emperior:~/Documents$ grep "bin/bash" /etc/passwd
root:x:0:0:root:/root:/bin/bash
espaghetty:x:1000:1000:espaghetty,,,:/home/espaghetty:/bin/bash
espaghetty@Emperior:~/Documents$ grep "bin/bash" /etc/passwd | wc -l
2
espaghetty@Emperior:~/Documents$ _
```

2. How many users have the `/sbin/nologin` shell assigned?

```
espaghetty@Emperior:~/Documents$ grep "sbin/nologin" /etc/passwd | wc -l
40
espaghetty@Emperior:~/Documents$ _
```

3. How many ford vehicles are there in the `cars.csv` file

```
1: espaghetty@Emperior: ~/Documents                                        AI  □  ×
espaghetty@Emperior:~/Documents$ grep -i "ford" Csv/cars.csv
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
Ford Torino (sw);0;8;351.0;153.0;4034.;11.0;70;US
Ford Mustang Boss 302;0;8;302.0;140.0;3353.;8.0;70;US
Ford Maverick;21.0;6;200.0;85.00;2587.;16.0;70;US
Ford F250;10.0;8;360.0;215.0;4615.;14.0;70;US
Ford Pinto;25.0;4;98.00;0;2046.;19.0;71;US
Ford Torino 500;19.0;6;250.0;88.00;3302.;15.5;71;US
Ford Galaxie 500;14.0;8;351.0;153.0;4154.;13.5;71;US
Ford Country Squire (sw);13.0;8;400.0;170.0;4746.;12.0;71;US
Ford Mustang;18.0;6;250.0;88.00;3139.;14.5;71;US
Ford Pinto Runabout;21.0;4;122.0;86.00;2226.;16.5;72;US
Ford Galaxie 500;14.0;8;351.0;153.0;4129.;13.0;72;US
Ford Gran Torino (sw);13.0;8;302.0;140.0;4294.;16.0;72;US
Ford Pinto (sw);22.0;4;122.0;86.00;2395.;16.0;72;US
Ford Gran Torino;14.0;8;302.0;137.0;4042.;14.5;73;US
Ford LTD;13.0;8;351.0;158.0;4363.;13.0;73;US
Ford Maverick;18.0;6;250.0;88.00;3021.;16.5;73;US
Ford Country;12.0;8;400.0;167.0;4906.;12.5;73;US
Ford Pinto;19.0;4;122.0;85.00;2310.;18.5;73;US
Ford Maverick;21.0;6;200.0;0;2875.;17.0;74;US
Ford Pinto;26.0;4;122.0;80.00;2451.;16.5;74;US
Ford Gran Torino;16.0;8;302.0;140.0;4141.;14.0;74;US
Ford Gran Torino (sw);14.0;8;302.0;140.0;4638.;16.0;74;US
Ford Maverick;15.0;6;250.0;72.00;3158.;19.5;75;US
Ford LTD;14.0;8;351.0;148.0;4657.;13.5;75;US
Ford Mustang II;13.0;8;302.0;129.0;3169.;12.0;75;US
Ford Pinto;23.0;4;140.0;83.00;2639.;17.0;75;US
Ford Pinto;18.0;6;171.0;97.00;2984.;14.5;75;US
Ford Gran Torino;14.5;8;351.0;152.0;4215.;12.8;76;US
Ford Maverick;24.0;6;200.0;81.00;3012.;17.6;76;US
Ford Grenada ghia;18.0;6;250.0;78.00;3574.;21.0;76;US
Ford Pinto;26.5;4;140.0;72.00;2565.;13.6;76;US
Ford F108;13.0;8;302.0;130.0;3870.;15.0;76;US
Ford Grenada;18.5;6;250.0;98.00;3525.;19.0;77;US
Ford Thunderbird;16.0;8;351.0;149.0;4335.;14.5;77;US
Ford Mustang II 2+2;25.5;4;140.0;89.00;2755.;15.8;77;US
Ford Fiesta;36.1;4;98.00;66.00;1800.;14.4;78;US
Ford Fairmont (auto);20.2;6;200.0;85.00;2965.;15.8;78;US
Ford Fairmont (man);25.1;4;140.0;88.00;2720.;15.4;78;US
Ford Futura;18.1;8;302.0;139.0;3205.;11.2;78;US
Ford Fairmont 4;22.3;4;140.0;88.00;2890.;17.3;79;US
Ford LTD Landau;17.6;8;302.0;129.0;3725.;13.4;79;US
Ford Country Squire (sw);15.5;8;351.0;142.0;4054.;14.3;79;US
```

```
1 / 1 ⌄  +  ⬚  ⬚                    Tilix: espaghetty@Emperior: ~                    🔍  ☰  ─  □  ✕
1: espaghetty@Emperior: ~ ⌄                                                                  □  ✕
espaghetty@Emperior:~$ grep -i "ford" Documents/Csv/cars.csv | wc -l
53
espaghetty@Emperior:~$ _
```

4. How many 4 letter words are there in the bible?

```
espaghetty@Emperior:~/Documents$ cat Books/bible.txt | grep -Ei '*????*' Books/bible.txt |wc -l
31102
espaghetty@Emperior:~/Documents$ _
```

!!!!Challenge Question!!!!

1. Display only the names of the cereals in the `cereal.csv` file. (Tip: use cut, awk and the pipe)

```
espaghetty@Emperior:~/Documents$ awk -F ';' 'NR > 3 {print $1}' 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
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
Double Chex
Froot Loops
Frosted Flakes
Frosted Mini-Wheats
Fruit & Fibre Dates, Walnuts, and Oats
Fruitful Bran
Fruity Pebbles
Golden Crisp
Golden Grahams
Grape Nuts Flakes
Grape-Nuts
Great Grains Pecan
Honey Graham Ohs
Honey Nut Cheerios
Honey-comb
Just Right Crunchy  Nuggets
Just Right Fruit & Nut
Kix
Life
Lucky Charms
Maypo
```

2. Sort the output of the previous command and save it to a file called `cereal-sorted.csv`. *(Beware that the first 2 lines need to be removed)* Challenge Question

3. Display the names of the cereals and the amount of calories they have per serving.

```
espaghetty@Emperior:~/Documents$ awk -F ';' 'NR > 3 {print $1,$4}' Csv/cereal.csv
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
Double Chex 100
Froot Loops 110
Frosted Flakes 110
Frosted Mini-Wheats 100
```

4. Repeat the previous command but replace the ; with a ,

```
espaghetty@Emperior:~/Documents$ awk -F ';' 'NR > 3 {print $1,$4}' Csv/cereal.csv | tr ';' ','
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
Double Chex 100
Froot Loops 110
Frosted Flakes 110
Frosted Mini-Wheats 100
Fruit & Fibre Dates, Walnuts, and Oats 120
Fruitful Bran 120
Fruity Pebbles 110
Golden Crisp 100
Golden Grahams 110
Grape Nuts Flakes 100
Grape-Nuts 110
```

© Bryant F. Polanco *CIS106*-**2023**