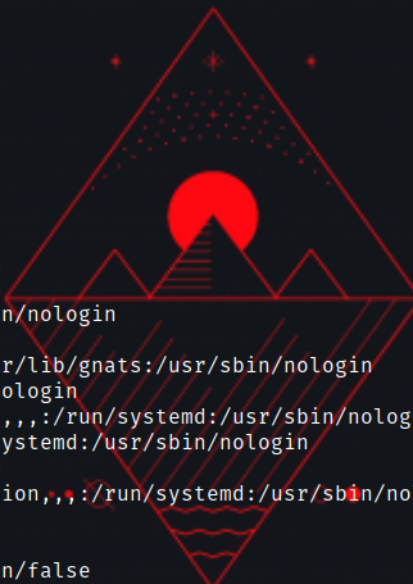


# Lab 7

## Question 1

```
mohammedc@mohammedc-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
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:nonexistent:/usr/sbin/nologin
tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
uidd:x:107:116:/:run/uidd:/usr/sbin/nologin
systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
tcpdump:x:109:118:/:nonexistent:/usr/sbin/nologin
avahi-autoind:x:110:119:Avahi autoind daemon,,:/var/lib/avahi-autoind:/usr/sbin/nologin
```



```

avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
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
geoclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:126:65534::/run/gnome-initial-setup:/bin/false
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
mohammedc:x:1000:1000:Mohammed,,,:/home/mohammedc:/bin/bash
vboxadd:x:999:1::/var/run/vboxadd:/bin/false
mopidy:x:129:29::/var/lib/mopidy:/usr/sbin/nologin
mohammedc@mohammedc-VirtualBox:~$ tac /etc/passwd
mopidy:x:129:29::/var/lib/mopidy:/usr/sbin/nologin
vboxadd:x:999:1::/var/run/vboxadd:/bin/false
mohammedc:x:1000:1000:Mohammed,,,:/home/mohammedc:/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/nologin

```

```

mohammedc@mohammedc-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/sbin/nologin$
18 nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin$
19 systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin$
20 systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin$
21 messagebus:x:102:105::/nonexistent:/usr/sbin/nologin$
22 systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin$
23 syslog:x:104:111::/home/syslog:/usr/sbin/nologin$
24 _apt:x:105:65534::/nonexistent:/usr/sbin/nologin$
25 tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false$
26 uidd:x:107:116::/run/uidd:/usr/sbin/nologin$
27 systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin$
28 tcpdump:x:109:118::/nonexistent:/usr/sbin/nologin$

```

```

mohammedc@mohammedc-VirtualBox:~$ 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
mohammedc@mohammedc-VirtualBox:~$ 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
mohammedc:x:1000:1000:Mohammed,,,:/home/mohammedc:/bin/bash
vboxadd:x:999:1::/var/run/vboxadd:/bin/false
mopidy:x:129:29::/var/lib/mopidy:/usr/sbin/nologin

```

## Question 2

```

mohammedc@mohammedc-VirtualBox:~$ cut -d ':' -f 1 /etc/passwd
root
daemon
bin
sys
sync
games
mopidy

mohammedc@mohammedc-VirtualBox:~$ 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

mohammedc@mohammedc-VirtualBox:~$ cut -d ':' -f1,7 --output delimiter=' => ' /etc/passwd
rootdelimiter= => /bin/bash
daemondelimiter= => /usr/sbin/nologin
bindelimiter= => /usr/sbin/nologin
sysdelimiter= => /usr/sbin/nologin
syncdelimiter= => /bin/sync
gamesdelimiter= => /usr/sbin/nologin
mopidydelimiter= => /usr/sbin/nologin

mohammedc@mohammedc-VirtualBox:~$ cut -d ',' --complement -s -f3 /etc/passwd
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
tss:x:106:113:TPM software stack,,:/var/lib/tpm:/bin/false
systemd-oom:x:108:117:systemd Userspace OOM Killer,,:/run/systemd:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin

```

### Question 3

```

mohammedc@mohammedc-VirtualBox:~$ curl -s https://cis106.com/assets/shopping.txt -o shopping.txt
mohammedc@mohammedc-VirtualBox:~$ curl -s https://cis106.com/assets/tasks.txt -o tasks.txt
mohammedc@mohammedc-VirtualBox:~$ cd Documents/Books
mohammedc@mohammedc-VirtualBox:~/Documents/Books$ wc -m dracula.txt
880834 dracula.txt
mohammedc@mohammedc-VirtualBox:~/Documents/Books$ wc -w pride-and-prejudice.txt
130412 pride-and-prejudice.txt
mohammedc@mohammedc-VirtualBox:~/Documents/Books$ cd
mohammedc@mohammedc-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:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
fwupd-refresh:x:120:126:fwupd-refresh user,,:/run/systemd:/usr/sbin/nologin
games:x:5:60:games:/usr/games:/usr/sbin/nologin
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
geoclue:x:124:131:./var/lib/geoclue:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
gnome-initial-setup:x:126:65534:/run/gnome-initial-setup:/bin/false
hplip:x:127:7:HPLIP system user,,:/run/hplip:/bin/false
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin

```

### Question 4



```

mohammedc@mohammedc-VirtualBox:~$ cd Documents/Csv
mohammedc@mohammedc-VirtualBox:~/Documents/Csv$ cat cereal.csv | tr ';' ','
name,mfr,type,calories,protein,fat,sodium,fiber,carbo,sugars,potass,vitamins,shelf,weight,cups,rating
String,Categorical,Categorical,Int,Int,Int,Int,Int,Float,Float,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
Wheaties Honey Guts,B,C,110,2,1,200,1,10,8,00,25,1,1,0.75,36.187359
mohammedc@mohammedc-VirtualBox:~/Documents/Csv$ cd ../Books/
mohammedc@mohammedc-VirtualBox:~/Documents/Books$ grep "love" pride-and-prejudice.txt
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"
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."

```

```

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

```

```

mohammedc@mohammedc-VirtualBox:~/Documents/Books$ grep -E "^[A-Z]|^[0-9]" dracula.txt
This eBook is for the use of anyone anywhere in the United States and
Title: Dracula
Author: Bram Stoker
Release Date: October, 1995 [eBook #345]
Language: English
Produced by: Chuck Greif and the Online Distributed Proofreading Team
Contents
CHAPTER I. Jonathan Harker's Journal
CHAPTER II. Jonathan Harker's Journal
CHAPTER III. Jonathan Harker's Journal
CHAPTER IV. Jonathan Harker's Journal
CHAPTER V. Letters--Lucy and Mina
CHAPTER VI. Mina Murray's Journal
CHAPTER VII. Cutting from "The Dailygraph," 8 August
CHAPTER VIII. Mina Murray's Journal

```

## Question 5

```
mohammedc@mohammedc-VirtualBox:~/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
```

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

```
mohammedc@mohammedc-VirtualBox:~/Documents/Csv$ awk -F';' 'NR > 3 {print "The ", $1" has ", $3,"cylinders ", "and is made in ", $NF}' cars.csv
The Buick Skylark 320 has 8 cylinders and is made in
The Plymouth Satellite has 8 cylinders and is made in
The AMC Rebel SST has 8 cylinders and is made in
The Ford Torino has 8 cylinders and is made in
The Ford Galaxie 500 has 8 cylinders and is made in
The Chevrolet Impala has 8 cylinders and is made in
The Plymouth Fury iii has 8 cylinders and is made in
The Pontiac Catalina has 8 cylinders and is made in
The AMC Ambassador DPL has 8 cylinders and is made in
The Citroen DS-21 Pallas has 4 cylinders and is made in
The Chevrolet Chevelle Concours (sw) has 8 cylinders and is made in
The Ford Torino (sw) has 8 cylinders and is made in
The Plymouth Satellite (sw) has 8 cylinders and is made in
The AMC Rebel SST (sw) has 8 cylinders and is made in
The Dodge Challenger SE has 8 cylinders and is made in
The Plymouth 'Cuda 340 has 8 cylinders and is made in
The Ford Mustang Boss 302 has 8 cylinders and is made in
The Chevrolet Monte Carlo has 8 cylinders and is made in
The Buick Estate Wagon (sw) has 8 cylinders and is made in
The Toyota Corolla Mark ii has 4 cylinders and is made in
The Plymouth Duster has 6 cylinders and is made in
The AMC Hornet has 6 cylinders and is made in
The Ford Maverick has 6 cylinders and is made in
The Datsun PL510 has 4 cylinders and is made in
The Volkswagen 1131 Deluxe Sedan has 4 cylinders and is made in
The Peugeot 504 has 4 cylinders and is made in
The Audi 100 LS has 4 cylinders and is made in
```

```
mohammedc@mohammedc-VirtualBox:~/Documents/Csv$ awk -F: '{print toupper($1)}' 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
```

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```
mohammedc@mohammedc-VirtualBox:~/Documents/Books$ sed 's/Dracula/Alucard/g' dracula.txt _
```

```
mohammedc@mohammedc-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
```

```
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
```

```
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
```



1. mohammedc@mohammedc-VirtualBox: ~/Documents/Books

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mohammedc@mohammedc-VirtualBox:~/Documents/Books\$ sed '/^\$/d;G' pride-and-prejudice.txt \_

## Question 6



## Challenge Question

mohammedc@mohammedc-VirtualBox:~/Documents/Csv\$ awk -F';' 'NR > 3 {print \$1}' cereal.csv

100% Natural Bran  
All-Bran  
All-Bran with Extra Fiber  
Almond Delight

mohammedc@mohammedc-VirtualBox:~/Documents/Csv\$ awk -F';' 'NR > 3 {print \$1}' cereal.csv | sort

100% Natural Bran  
All-Bran  
All-Bran with Extra Fiber

```

mohammedc@mohammedc-VirtualBox:~/Documents/Csv$ awk -F',' '{print $1, $4}' cereal.csv
name calories
String Int
100% Bran 70
100% Natural Bran 120
All-Bran 70
All-Bran with Extra Fiber 50
Almond Delight 110
Apple Cinnamon Cheerios 110
Apple Jacks 110
Basic 4 130
Bran Chex 90
Bran Flakes 90
Cap'n Crunch 120
Cheerios 110
Cinnamon Toast Crunch 120
Clusters 110
Cocoa Puffs 110
Corn Chex 110
Corn Flakes 100
Corn Pops 110
Count Chocula 110
Cracklin' Oat Bran 110
Cream of Wheat (Quick) 100
Crispix 110
Crispy Wheat & Raisins 100
medleys Honey Gold 110
mohammedc@mohammedc-VirtualBox:~/Documents/Csv$ awk -F',' '{print $1, $4}' cereal.csv
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;she f;weight;cups;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

```