

```
angel922@cis106:~$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mail List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/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
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:./nonexistent:/usr/sbin/nologin
syslog:x:104:110:./home/syslog:/usr/sbin/nologin
_apt:x:105:65534:./nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:114:./run/uuidd:/usr/sbin/nologin
tcpdump:x:108:115:./nonexistent:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
cups-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
avahi:x:115:121:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
saned:x:117:123:./var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
whoopsie:x:120:125:./nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:122:127:./var/lib/geoclue:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534:./run/gnome-initial-setup:/bin/false
odm:x:125:130:Gnome Disclav Manager:/var/lib/odm3:/bin/false
```

```

angel922@cis106:~$ 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
angel922:x:1000:1000:Angel,,,:/home/angel922:/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-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
tcpdump:x:108:115:/nonexistent:/usr/sbin/nologin
uidd:x:107:114:/run/uidd:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
_apt:x:105:65534:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:/home/syslog:/usr/sbin/nologin
messagebus:x:103:106:/nonexistent:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin

```

```

angel922@cis106:~$ cat -n /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:/var/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 systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
22 messagebus:x:103:106:/:/nonexistent:/usr/sbin/nologin
23 syslog:x:104:110:/:/home/syslog:/usr/sbin/nologin
24 _apt:x:105:65534:/:/nonexistent:/usr/sbin/nologin
25 tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
26 uidd:x:107:114:/:run/uidd:/usr/sbin/nologin
27 tcpdump:x:108:115:/:/nonexistent:/usr/sbin/nologin
28 avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
29 usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
30 rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
31 dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
32 cups-pk-helper:x:113:120:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
33 speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
34 avahi:x:115:121:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin
35 kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
36 saned:x:117:123:/:/var/lib/saned:/usr/sbin/nologin
37 nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
38 hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
39 whoopsie:x:120:125:/:/nonexistent:/bin/false
40 colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
41 _flatpak:x:127:137:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
angel922@cis106:~$ 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
angel922@cis106:~$ 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
angel922:x:1000:1000:Angel,,,:/home/angel922:/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
angel922@cis106:~$

```

```
angel922@cis106:~$ cut -d ":" -f1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
```

```
angel922@cis106:~$ 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
```

```
angel922@cis106:~$ 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
```

```
angel922@cis106:~$ cut -d ':' --complement -s -f3 /etc/passwd
root:x:0:root:/root:/bin/bash
daemon:x:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:bin:/bin:/usr/sbin/nologin
sys:x:3:sys:/dev:/usr/sbin/nologin
sync:x:65534:sync:/bin:/bin/sync
games:x:60:games:/usr/games:/usr/sbin/nologin
man:x:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:backup:/var/backups:/usr/sbin/nologin
```

```
angel922@cis106:~$ curl -s https://cis106.com/assets/shopping.md -o shopping.md
angel922@cis106:~$ curl -s https://cis106.com/assets/tasks.md -o tasks.md
angel922@cis106:~$ ls
cis106  Documents  lab4files  lab5-audio  lab5-docs  lab5-video  lab6-q5  list_of_cars  names.csv  Public  shopping.md  snap  Templates  Wallpapers
Desktop  Downloads  lab-5      lab5ChallengeQuestion  lab5-lmgs  lab6      list      Music      Pictures  script.py  site.html  tasks.md  Videos
angel922@cis106:~$ paste shopping.md tasks.md
## Shopping      ## Tasks
1. Apples:      1. Do Laundry:
2. Meat:        2. Cook lunch:
3. Bread:       3. Clean room:
angel922@cis106:~$ wc Documents/Books/dracula.txt
 15860 164386 881251 Documents/Books/dracula.txt
angel922@cis106:~$ wc -l Documents/Books/dracula.txt
15860 Documents/Books/dracula.txt
angel922@cis106:~$ wc -w Documents/Books/dracula.txt
164386 Documents/Books/dracula.txt
angel922@cis106:~$ sort /etc/passwd
angel922:x:1000:1000:Angel,,,:/home/angel922:/bin/bash
_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
```

```
angel922@cis106:~$ ls Documents/Csv/
cars.csv  cereal.csv  contacts.csv  country.csv  film.csv
angel922@cis106:~$ cat Documents/Csv/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,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,110,1,0,90,1,13,12,20,25,2,1,1,35.782701
```

```
angel922@cis106:~/Documents/Books$ grep -i "love" pride-and-prejudice.txt
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
```


angel922@cis106: ~/Documents/Books

```
angel922@cis106:~/Documents/Books$ grep -Ew "love|hate" pride-and-prejudice.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,
```

```
angel922@cis106:~/Documents/Books$ grep -ni "^love" 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.
```

```
angel922@cis106:~/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
```

```
angel922@cis106:~/Documents/Csv$ awk -F";" '{OFS=" Made in the "}{print $1,$NF}' cars.csv
```

```
Car Made in the Origin
STRING Made in the CAT
Chevrolet Chevelle Malibu Made in the US
Buick Skylark 320 Made in the US
Plymouth Satellite Made in the US
AMC Rebel SST Made in the US
Ford Torino Made in the US
Ford Galaxie 500 Made in the US
Chevrolet Impala Made in the US
Plymouth Fury iii Made in the US
Pontiac Catalina Made in the US
AMC Ambassador DPL Made in the US
Citroen DS-21 Pallas Made in the Europe
Chevrolet Chevelle Concours (sw) Made in the US
Ford Torino (sw) Made in the US
Plymouth Satellite (sw) Made in the US
AMC Rebel SST (sw) Made in the US
Dodge Challenger SE Made in the US
Plymouth 'Cuda 340 Made in the US
```

```
angel922@cis106:~/Documents/Csv$ awk -F ";" '{print "The", $1,"Has", $3 "cylinders","and is made in"
,SNF}' cars.csv
The Car Has Cylinderscylinders and is made in Origin
The STRING Has INTcylinders and is made in CAT
The Chevrolet Chevelle Malibu Has 8cylinders and is made in US
The Buick Skylark 320 Has 8cylinders and is made in US
The Plymouth Satellite Has 8cylinders and is made in US
The AMC Rebel SST Has 8cylinders and is made in US
The Ford Torino Has 8cylinders and is made in US
The Ford Galaxie 500 Has 8cylinders and is made in US
The Chevrolet Impala Has 8cylinders and is made in US
The Plymouth Fury iii Has 8cylinders and is made in US
The Pontiac Catalina Has 8cylinders and is made in US
The AMC Ambassador DPL Has 8cylinders and is made in US
The Citroen DS-21 Pallas Has 4cylinders and is made in Europe
The Chevrolet Chevelle Concours (sw) Has 8cylinders and is made in US
The Ford Torino (sw) Has 8cylinders and is made in US
The Plymouth Satellite (sw) Has 8cylinders and is made in US
The AMC Rebel SST (sw) Has 8cylinders and is made in US
```

```
angel922@cis106:~/Documents/Csv$ awk -F";" '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
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
```

```
angel922@cis106:~/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
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
```

```
angel922@cis106:~/Documents/Books$ sed 's/Dracula/Alucard/' dracula.txt | grep "dracula"
angel922@cis106:~/Documents/Books$ sed 's/Dracula/Alucard/' dracula.txt | grep "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
Szekelys--and the Alucard as their heart's blood, their brains, and
Alucard was speaking, there was that in his eyes and in his bearing
Alucard." I suspected him, and determined to test his sincerity.
to my own room. The last I saw of Count Alucard was his kissing his hand
had just been received. It is only a line dated from Castle Alucard,
terrible events at Whitby when Count Alucard landed, so I shall look
had found in his absence: that the house which Alucard had bought was
sisters in the castle of Alucard. He become so small--we ourselves saw
has been the most indeed, have been that Alucard who was his
```

```
angel922@cis106:~$ 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
```

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.

```
angel922@cis106:~/Documents/Books$ sed '/^$/d;G' pride-and-prejudice.txt █
```



```
angel922@cis106:~$ grep -n "/bin/bash" /etc/passwd
1:root:x:0:0:root:/root:/bin/bash
46:angel922:x:1000:1000:Angel,,,:/home/angel922:/bin/bash
angel922@cis106:~$ grep -n "/bin/bash" /etc/passwd | wc -l
2
angel922@cis106:~$ grep -n "/sbin/nologin" /etc/passwd | wc -l
39
angel922@cis106:~$ grep -n "/sbin/nologin" /etc/passwd
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
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
```

```
angel922@cis106:~/Documents/Csv$ grep -i "ford" cars.csv | wc -l
53
```

```
Applications Places
angel922@cis106: ~/Documents/Csv
angel922@cis106:~$ cd Documents/Csv/
angel922@cis106:~/Documents/Csv$ awk 'NR > 3{print}' cereal.csv
100% Natural Bran;Q;C;120;3;5;15;2;8;8;135;0;3;1;1;33.983679
All-Brn;K;C;70;4;1;130;10;5;6;280;25;3;1;0.33;59.425505
All-Brn 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;0;180;25;3;1;33;0.75;37.038562
Bran Chex;R;C;90;2;1;200;4;15;0;125;25;1;1;0.67;49.120253
Bran Flakes;P;C;90;3;0;210;5;13;5;190;25;3;1;0.67;53.313813
Cap'n Crunch;Q;C;120;1;2;220;0;12;12;35;25;2;1;0.75;18.042851
Cheerios;G;C;110;0;6;2;90;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;40.480208
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;41.445819
Corn Flakes;K;C;100;2;0;290;1;21;3;30;25;3;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;10;3;14;7;100;25;2;1;0.8;345141
Fruit & Fibre Dates, Walnuts, and Oats;P;C;120;3;2;160;5;12;10;200;25;3;1.25;0.67;46.917047
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;200;0;21;3;40;25;2;1;1.5;39.241114
Life;Q;C;100;4;2;150;2;12;6;95;25;2;1;0.67;45.328874
Lucky Charms;G;C;110;2;1;180;0;12;12;55;25;2;1;1;26.734515
Mavuno;A;H;100;4;1;0;8;16;3;95;75;2;1;1;64.850917
```

```
Applications Places
angel922@cis106: ~/Documents/Csv
angel922@cis106:~/Documents/Csv$ ls -la ~> cereal-sorted.csv
angel922@cis106:~/Documents/Csv$ ls cereal-sorted.csv
cereal-sorted.csv
angel922@cis106:~/Documents/Csv$ head cereal.csv
name;fr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cup;s;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-Brn;K;C;70;4;1;130;10;5;6;280;25;3;1;0.33;59.425505
All-Brn 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;0;180;25;3;1;33;0.75;37.038562
angel922@cis106:~/Documents/Csv$ awk -F ";" '{print $1,$3}' cereal.csv
name type
String Categorical
100% Bran C
100% Natural Bran C
All-Brn C
All-Brn with Extra Fiber C
Almond Delight C
Apple Cinnamon Cheerios C
Apple Jacks C
Basic 4 C
Bran Chex C
Bran Flakes C
Cap'n Crunch C
Cheerios C
Cinnamon Toast Crunch C
Clusters C
Cocoa Puffs C
Corn Chex C
Corn Flakes C
Corn Pops C
Count Chocula C
Cracklin' Oat Bran C
Cream of Wheat (Quick) H
Crispix C
Crispy Wheat & Raisins C
Double Chex C
Froot Loops C
Frosted Flakes C
Frosted Mini-Wheats C
Fruit & Fibre Dates, Walnuts, and Oats C
```