



```
hris@CIS106:-$ cut -d ':' -f /etc/passwd
ut: invalid field value '/etc/passwd'
ry 'cut --help' for more information.
hris@CIS106:-$ cut -d ':' -f1 /etc/passwd
  oot
aemon
 p
ail
ews
ucp
roxy
ww-data
ackup
   rc
nats
 nats

obody
ystend-network
ystend-resolve
essagebus
ystend-timesync
yslog
  nidd
ystemd-oom
    pdump
vahi-autoipd
   sbmux
nsmasq
ernoops
  vahi
ups-pk-helper
tkit
      oopsie
    ssd
peech-dispatcher
 yupd-refresh
n-openvpn
nned
olord
eoclue
  ulse
nome-initial-setup
plip
im
hris
boxadd
flatpak
hris@CIS106:-$ cut -d ':' -f1,7 /etc/passwd
bot:/bin/bash
semon:/usr/sbin/nologin
in:/usr/sbin/nologin
ys:/usr/sbin/nologin
ync:/bin/sync
smes:/usr/sbin/nologin
p:/usr/sbin/nologin
p:/usr/sbin/nologin
in:/usr/sbin/nologin
coxy:/usr/sbin/nologin
coxy:/usr/sbin/nologin
coxy:/usr/sbin/nologin
coxy:/usr/sbin/nologin
coxy:/usr/sbin/nologin
coxy:/usr/sbin/nologin
```

```
1: chris@CIS106: ~ ~
chris@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
systemd-resolve = /usr/sbin/nologin
messagebus = /usr/sbin/nologin
systemd-timesync = /usr/sbin/nologin
syslog = /usr/sbin/nologin
apt = /usr/sbin/nologin
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
geoclue = /usr/sbin/nologin
pulse = /usr/sbin/nologin
gnome-initial-setup = /bin/false
hplip = /bin/false
gdm = /bin/false
chris = /bin/bash
vboxadd = /bin/false
_flatpak = /usr/sbin/nologin
chris@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
list:x:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:ircd:/run/ircd:/usr/sbin/nologin
```

```
ris@CIS106:-$ paste task.txt shopping.txt
             Eggs
ay Bingo
to Work
             Juice
to School
             Carrots
             Potatoes
ris@CIS106:-$ wc -1 Documents/Books/dracula.txt
871 Documents/Books/dracula.txt
ris@CIS106:-$ wc -w Documents/Books/pride-and-prejudice.txt
0412 Documents/Books/pride-and-prejudice.txt
ris@CIS106:-$ sort /etc/passwd
pt:x:105:65534::/nonexistent:/usr/sbin/nologin
ahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
ahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
ckup:x:34:34:backup:/var/backups:/usr/sbin/nologin
n:x:2:2:bin:/bin:/usr/sbin/nologin
is:x:1000:1000:chris,,,:/home/chris:/bin/bash
lord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/mologin
ps-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
mon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
smasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
latpak:x:129:138:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
upd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
es:x:5:60:games:/usr/games:/usr/sbin/nologin
 :x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
oclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin
ats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
me-initial-setup:x:126:65534::/run/gnome-initial-setup/:/bin/false
lip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
 :x:39:39:ircd:/run/ircd:/usr/sbin/nologin
moops:x:113:65534:Kernel Cops Tracking Daemon,,,:/:/usr/sbin/nologin
st:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
x:7:7:1p:/var/spool/lpd:/usr/sbin/nologin
il:x:8:8:mail:/var/mail:/usr/sbin/mologin
 :x:6:12:man:/var/cache/man:/usr/sbin/nologin
ssagebus:x:102:105::/nonexistent:/usr/sbin/nologin
ws:x:9:9:news:/var/spool/news:/usr/sbin/nologin
openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
ody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
oxy:x:13:13:proxy:/bin:/usr/sbin/nologin
se:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
ot:x:0:0:root:/root:/bin/bash
kit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
ed:x:122:129::/var/lib/saned:/usr/sbin/nologin
 ech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
sd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
nc:x:4:65534:sync:/bin:/bin/sync
slog:x:104:111::/home/syslog:/usr/sbin/nologin
stemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
stemd-oom:x:108:117:systemd Userspace GOM Killer,,,:/run/systemd:/usr/sbin/nologin
stemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
stemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
:x:3:3:sys:/dev:/usr/sbin/nologin
dump:x:109:118::/nonexistent:/usr/sbin/nologin
 :x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
mux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
cp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
idd:x:107:116::/run/uuidd:/usr/sbin/nologin
oxadd:x:999:1::/var/run/vboxadd:/bin/false
opsie:x:117:124::/nonexistent:/bin/false
 -data:x:33:33:www-data:/var/www:/usr/sbin/nologin
```

```
chris@CIS106:-$ cd Documents/Csy/
 chris@CIS106:-/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, Float, Float, Int, Int, Int, Int, 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
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, 40.917047
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, 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
Life,Q,C,100,4,2,150,2,12,6,95,25,2,1,0.67,45.328074
Lucky Charms, G, C, 110, 2, 1, 180, 0, 12, 12, 55, 25, 2, 1, 1, 26.734515
Maypo,A,H,100,4,1,0,0,16,3,95,25,2,1,1,54.850917
Muesli Raisins, Dates, & Almonds, R, C, 150, 4, 3, 95, 3, 16, 11, 170, 25, 3, 1, 1, 37. 136863
Muesli Raisins, Peaches, & Pecans, R.C., 150, 4, 3, 150, 3, 16, 11, 170, 25, 3, 1, 1, 34, 139765
Mueslix Crispy Blend, K, C, 160, 3, 2, 150, 3, 17, 13, 160, 25, 3, 1.5, 0.67, 30.313351
Multi-Grain Cheerios, G, C, 100, 2, 1, 220, 2, 15, 6, 90, 25, 1, 1, 1, 40, 105965
Nut&Honey Crunch, K, C, 120, 2, 1, 190, 0, 15, 9, 40, 25, 2, 1, 0.67, 29.924285
Nutri-Grain Almond-Raisin, K, C, 140, 3, 2, 220, 3, 21, 7, 130, 25, 3, 1.33, 0.67, 40.692320
Nutri-grain Wheat, K, C, 90, 3, 0, 170, 3, 18, 2, 90, 25, 3, 1, 1, 59.642837
```

hris@CIS106:~/Documents/Csv\$ cd ~ hris@CIS106:~\$ cd Documents/Books hris@CIS106:~/Documents/Books\$ grep 'love' pride-and-prejudice.txt y allowance" and "loving with personal love." This distinction applies o their best work than in the case of those others who are loved "by roper thing to love them. And in the sect--fairly large and yet ll the minor passages--the loves of Jane and Bingley, the advent of Mr. version to actual love. I do not know whether the all-grasping hand of is falling in **love** at all is not extremely probable. Here again I njured in disposition, and thoroughly in love. As for his being in ve, Elizabeth has given as just an exposition of the causes of that nybody who can read between lines will not find the lovers adies with whom it might be a pleasure to fall in love; there are at rant. 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 ersuade you at last. I was sure you loved your girls too well to or your sakes we would do anything. Lydia, my love, though you _are_ ancing was a certain step towards falling in love; and very lively ay to be very much in love; but she considered with pleasure that it ery few of us who have heart enough to be really in love without n love as much as she chooses." magination is very rapid; it jumps from admiration to love, from love ane, make haste and tell us; make haste, my love." rother Gardiner's in town so much in love with her, that my iscovered the efficacy of poetry in driving away love!" I have been used to consider poetry as the _food_ of love," said Darcy. Of a fine, stout, healthy love it may. Everything nourishes what is e a great loss to _me_ to have many such acquaintance. I dearly love a o-day. Lydia, my love, ring the bell. I must speak to Hill this is plan did not vary on seeing them. Miss Bennet's lovely face ffects of your loveliness and amiable qualifications. As I must, hall choose to attribute it to your wish of increasing my love by uccessful love; for Mrs. Bennet, having dawdled about in the vestibule

```
chris@CIS106:~/Documents/Books$ grep -n 'Love\|hate' pride-and-prejudice.txt
 048: "Come, Darcy," said he, "I must have you dance. I hate to see you
 991:"To walk three miles, or four miles, or five miles, or whatever it is,
 165:to employ for captivation. Whatever bears affinity to cunning is
 245: "Whatever I do is done in a hurry, " replied he; "and therefore if I
 572:thankful; and then you may say whatever you like of me."
 368:"And _your_ defect is a propensity to hate everybody."
 020:him to write to you at all, and very hypocritical. I hate such false
 558:different sort of men, and that he hates me."
 326:everybody. Whatever he said, was said well; and whatever he did, done
 362:throw into the account of accident or mistake whatever could not be
 337:scruple whatever on that head, and was very far from dreading a rebuke,
 048:a man agreeable whom one is determined to hate! Do not wish me such an
 070:He smiled, and assured her that whatever she wished him to say should be
 710:"I do assure you, sir, that I have no pretensions whatever to that kind
 145: and exceedingly troublesome. She hated having visitors in the house
 468:painful than Elizabeth's: but whatever she felt she was desirous of
 568:whatever manner he thought best; but her sister's was involved in it, as
 885:her better. But, whatever may be their own wishes, it is very unlikely
 721: "True, " said Mr. Bennet; "but it is a comfort to think that, whatever of
        deservedly dear as he is to his sister, whatever anxiety she may
 147: out that I hate her at all, or that I am in the least unwilling to think
 527:whatever of your clothes is superior to the rest--there is no occasion
 574:silence: but whatever she said was spoken in so authoritative a tone as
 801:was now enough recovered to echo whatever his son-in-law said, in a
 663: "My mother would have no objection, but my father hates London."
 377:reserve, to Mrs. Collins; and whatever might be his feelings towards her
 394:only can tell. But whatever may be the sentiments which Mr. Wickham has
 108: hatefully mercenary; and the mediocrity of her fortune proved no longer
 476: Jane, and must, at the same time, so highly gratify whatever of her own
 043:reproof contained in his believing, that however long, and for whatever
 527: the room. "And this is always the way with him," she added. "Whatever
 749:that whatever desire Miss Darcy might have of being acquainted with her,
 0034:certainly did not hate him. No; hatred had vanished long ago, and she
```

```
chris@CIS106:~/Documents/Books$ grep '^love' pride-and-prejudice.txt
love, Elizabeth has given as just an exposition of the causes of that
love with only a few days before."
lovely as ever. On the stairs were a troop of little boys and girls,
love, and the object of that love her friend Eliza, she set herself
love before, her regard had all the warmth of first attachment, and from
loved her, but for loving her still well enough to forgive all the
lover. When first he came in, he had spoken to her but little, but every
lover to any of them. She began at length to recover, to fidget about in
chris@CIS106:~/Documents/Books$
```

```
1: chris@CIS106: ~/Documents/Books 🗸
 ver to any of them. She began at length to recover, to fidget about in
hris@CIS106:~/Documents/Books$ grep -E "^[A-Z]|^[0-9]" dracula.txt
his eBook is for the use of anyone anywhere in the United States and
itle: Dracula
uthor: Bram Stoker
elease Date: October, 1995 [eBook #345]
anguage: English
roduced by: Chuck Greif and the Online Distributed Proofreading Team
ontents
HAPTER I. Jonathan Harker's Journal
HAPTER II. Jonathan Harker's Journal
HAPTER III. Jonathan Harker's Journal
HAPTER IV. Jonathan Harker's Journal
HAPTER V. Letters-Lucy and Mina
HAPTER VI. Mina Murray's Journal
HAPTER VII. Cutting from "The Dailygraph," 8 August
HAPTER VIII. Mina Murray's Journal
HAPTER IX. Mina Murray's Journal
HAPTER X. Mina Murray's Journal
HAPTER XI. Lucy Westenra's Diary
HAPTER XII. Dr. Seward's Diary
HAPTER XIII. Dr. Seward's Diary
HAPTER XIV. Mina Harker's Journal
HAPTER XV. Dr. Seward's Diary
HAPTER XVI. Dr. Seward's Diary
HAPTER XVII. Dr. Seward's Diary
HAPTER XVIII. Dr. Seward's Diary
HAPTER XIX. Jonathan Harker's Journal
HAPTER XX. Jonathan Harker's Journal
HAPTER XXI. Dr. Seward's Diary
HAPTER XXII. Jonathan Harker's Journal
HAPTER XXIII. Dr. Seward's Diary
HAPTER XXIV. Dr. Seward's Phonograph Diary, spoken by Van Helsing
HAPTER XXV. Dr. Seward's Diary
```

```
hris@CIS106:~/Documents/Books$ cd ~
hris@CIS106:-$ awk -F';' '{print $1,$NF}' Documents/Csv/cars.csv
ar Origin
TRING CAT
hevrolet Chevelle Malibu US
uick Skylark 320 US
'lymouth Satellite US
MC Rebel SST US
ord Torino US
ord Galaxie 500 US
hevrolet Impala US
lymouth Fury iii US
ontiac Catalina US
MC Ambassador DPL US
itroen DS-21 Pallas Europe
hevrolet Chevelle Concours (sw) US
ord Torino (sw) US
lymouth Satellite (sw) US
MC Rebel SST (sw) US
odge Challenger SE US
'lymouth 'Cuda 340 US
ord Mustang Boss 302 US
Chevrolet Monte Carlo US
Buick Estate Wagon (sw) US
'oyota Corolla Mark ii Japan
lymouth Duster US
MC Hornet US
ord Maverick US
atsun PL510 Japan
olkswagen 1131 Deluxe Sedan Europe
eugeot 504 Europe
udi 100 LS Europe
aab 99e Europe
MW 2002 Europe
```

```
chris@CIS106:-$ awk -F';' '{OFS=" made in "} {print $1,NF}' Documents/Csv/cars.csv Car made in Origin
Car made in 9
STRING made in 9
Chevrolet Chevelle Malibu made in 9
Buick Skylark 320 made in 9
Plymouth Satellite made in 9
AMC Rebel SST made in 9
Ford Torino made in 9
Ford Galaxie 500 made in 9
Chevrolet Impala made in 9
Plymouth Fury iii made in 9
Pontiac Catalina made in 9
AMC Ambassador DPL made in 9
Citroen DS-21 Pallas made in 9
Chevrolet Chevelle Concours (sw) made in 9
Ford Torino (sw) made in 9
Plymouth Satellite (sw) made in 9
AMC Rebel SST (sw) made in 9
Dodge Challenger SE made in 9
Plymouth 'Cuda 340 made in 9
Ford Mustang Boss 302 made in 9
Chevrolet Monte Carlo made in 9
Buick Estate Wagon (sw) made in 9
Toyota Corolla Mark ii made in 9
Plymouth Duster made in 9
AMC Hornet made in 9
Ford Maverick made in 9
Datsun PL510 made in 9
Volkswagen 1131 Deluxe Sedan made in 9
Peugeot 504 made in 9
Audi 100 LS made in 9
Saab 99e made in 9
BMW 2002 made in 9
AMC Gremlin made in 9
```

```
chris@CIS106:~$ awk -F';' '{print "The", $1, "has", $3, "Cylinders, "and is made in", $NF}' Documents/Csv/cars.csv
awk: line 1: runaway string constant ", $NF} ...
chris@CIS106:~$ awk -F';' '{print "The", $1, "has", $3, "Cylinders", "and is made in", $NF}' Documents/Csv/cars.csv
The Car has Cylinders Cylinders and is made in Origin
The STRING has INT Cylinders and is made in CAT
The Chevrolet Chevelle Malibu has 8 Cylinders and is made in US
The Buick Skylark 320 has 8 Cylinders and is made in US
The Plymouth Satellite has 8 Cylinders and is made in US
The AMC Rebel SST has 8 Cylinders and is made in US
The Ford Torino has 8 Cylinders and is made in US
The Ford Galaxie 500 has 8 Cylinders and is made in US
The Chevrolet Impala has 8 Cylinders and is made in US
The Plymouth Fury iii has 8 Cylinders and is made in US
The Pontiac Catalina has 8 Cylinders and is made in US
The AMC Ambassador DPL has 8 Cylinders and is made in US
The Citroen DS-21 Pallas has 4 Cylinders and is made in Europe
The Chevrolet Chevelle Concours (sw) has 8 Cylinders and is made in US
The Ford Torino (sw) has 8 Cylinders and is made in US
The Plymouth Satellite (sw) has 8 Cylinders and is made in US
The AMC Rebel SST (sw) has 8 Cylinders and is made in US
The Dodge Challenger SE has 8 Cylinders and is made in US
The Plymouth 'Cuda 340 has 8 Cylinders and is made in US
The Ford Mustang Boss 302 has 8 Cylinders and is made in US
The Chevrolet Monte Carlo has 8 Cylinders and is made in US
The Buick Estate Wagon (sw) has 8 Cylinders and is made in US
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
```

```
chris@CIS106:~$ awk 'NR > 3 {print}' Documents/Csv/cars.csv
Buick Skylark 320;15.0;8;350.0;165.0;3693.;11.5;70;US
Plymouth Satellite;18.0;8;318.0;150.0;3436.;11.0;70;US
AMC Rebel SST;16.0;8;304.0;150.0;3433.;12.0;70;US
Ford Torino;17.0;8;302.0;140.0;3449.;10.5;70;US
Ford Galaxie 500;15.0;8;429.0;198.0;4341.;10.0;70;US
Thevrolet 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
Ontiac 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
Thevrolet 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
Oodge 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
Olkswagen 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
Thevy C20;10.0;8;307.0;200.0;4376.;15.0;70;US
Oodge D200;11.0;8;318.0;210.0;4382.;13.5;70;US
```

```
hris@CIS106:~$ grep -n '^[A-Z]' car.csv
rep: car.csv: No such file or directory
hris@CIS106:~$ cd Documents/Csv/
hris@CIS106:~/Documents/Csv$ grep -n '^[A-Z]' car.csv
rep: car.csv: No such file or directory
hris@CIS106:~/Documents/Csv$ grep -n '^[A-Z]' 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
```

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hris@CIS106:~/Documents/Books\$ sed 's/Dracula/Alucard/g' dracula.txt

chris@CIS106:/etc\$ sed G 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

```
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chris@CISIO6:-/Documents/Books$ sed '/~$/d;O' pride-and-prejudice.txt _____
```

Question 6

```
chris@CIS106:-$ grep "/bin/bash" /etc/passwd | wc -1
2
chris@CIS106:-$ _

chris@CIS106:-$ grep "/sbin/nologin" /etc/passwd | wc -1
40
chris@CIS106:-$

chris@CIS106:-$

chris@CIS106:-\Documents/Csv\$ grep -i 'ford' cars.csv | wc -1

53
chris@CIS106:-\Documents/Csv\$ _

chris@CIS106:-\Documents/Csv\$ _

chris@CIS106:-\Documents/Books\$ grep -n ' .... ' bible.txt | wc -1
```

Question 7

chris@CIS106:~/Documents/Books\$

29713

chris@CIS106:~/Documents/Csv\$ awk -F';' 'NR > 3 {print \$1}' 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

```
chris@CIS106:~/Documents/Csv$ awk -F';' 'NR > 3 {print $1}' cereal.csv | sort
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
```

```
chris@CIS106:~/Documents/Csv$ cut -d ';' -f1,4 cereal.csv | tr ';' ','
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
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
```