

## Answer1

```

zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~$ 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:/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/mtsc:/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
nn-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
whoopste: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
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
zmoustafa:x:1000:1000:zavad moustafa,,,:/home/zmoustafa:/bin/bash

```

```

zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~$ tac /etc/passwd
vboxadd:x:998:1:/var/run/vboxadd:/bin/false
_flatpak:x:127:135:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
zmoustafa:x:1000:1000:zavad moustafa,,,:/home/zmoustafa:/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
whoopste:x:120:125:/:/nonexistent:/bin/false
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
nn-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/mtsc:/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
uuidd:x:107:114:/:/run/uuidd:/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:Mail 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
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
games:x:5:60:games:/usr/games:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
sys:x:3:3:sys:/dev:/usr/sbin/nologin

```

```

zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~/lab5$ 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:11:13: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$
lirc:x:39:39:lirc:/var/run/lirc:/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$
uudidd:x:107:114:/run/uudidd:/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$
nn-ovpn:x:118:124:NetworkManager OpenVPN,,:/var/lib/ovpn/chroot:/usr/sbin/nologin$
hplip:x:119:7:HPLIP system user,,:/run/hplip:/bin/false$
whoopie: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$
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$
zmoustafa:x:1000:1000:zmoustafa:/home/zmoustafa:/bin/bash$

```

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zmoustafa@cis106student: ~/lab5
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin$
proxy:x:11:13: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$
lirc:x:39:39:lirc:/var/run/lirc:/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$
uudidd:x:107:114:/run/uudidd:/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$
nn-ovpn:x:118:124:NetworkManager OpenVPN,,:/var/lib/ovpn/chroot:/usr/sbin/nologin$
hplip:x:119:7:HPLIP system user,,:/run/hplip:/bin/false$
whoopie: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$
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$
zmoustafa:x:1000:1000:zmoustafa:/home/zmoustafa:/bin/bash$
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin$
flatpak:x:127:135:Flatpak system-wide installation helper,,:/nonexistent:/usr/sbin/nologin$
vboxadd:x:998:1:/var/run/vboxadd:/bin/false$
zmoustafa@cis106student:~/lab5$ 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
zmoustafa@cis106student:~/lab5$

```

```

zmoustafa@cis106student: ~/lab5
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$
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$
zmoustafa:x:1000:1000:zeyad moustafa,,,:/home/zmoustafa:/bin/bash$
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin$
_flatpak:x:127:135:Flatpak system-wide installation helper,,,:/nonexistent:/usr/
sbin/nologin$
vboxadd:x:998:1:./var/run/vboxadd:/bin/false$
zmoustafa@cis106student:~/lab5$ 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
zmoustafa@cis106student:~/lab5$ tail -5 /etc/passwd
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
zmoustafa:x:1000:1000:zeyad moustafa,,,:/home/zmoustafa:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
_flatpak:x:127:135:Flatpak system-wide installation helper,,,:/nonexistent:/usr/
sbin/nologin
vboxadd:x:998:1:./var/run/vboxadd:/bin/false
zmoustafa@cis106student:~/lab5$

```

## Answer2

```

zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~/lab5$ cut -d : -f1 /etc/passwd
root
daemon
bin
sys
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
llist
irc
gnats
nobody
systemd-network
systemd-resolve
systemd-timesync
messagebus
syslog
_apt
tss
uuidd
tcpdump
avahi-autoipd
usblu
rtkit
dnsmasq
cups-pk-helper
speech-dispatcher
avahi
kernoops
saned
nnp-openvpn
hplip
whoopste
colord
geoclue
pulse
gnome-initial-setup
gdm
sssd
zmoustafa

```

```

zmostafa@c1s106student: ~/lab5
kernoops
saned
nm-openvpn
hplip
whoopsie
colord
geoclue
pulse
gnome-initial-setup
gdm
sssd
zmostafa
systemd-coredump
_flatpak
vboxadd
zmostafa@c1s106student:~/lab5$ last -5
zmostaf :0 :0 Fri Nov 12 18:49 still logged in
reboot system boot 5.11.0-37-generi Fri Nov 12 18:47 still running
zmostaf :0 :0 Wed Nov 10 17:59 - down (00:51)
reboot system boot 5.11.0-37-generi Wed Nov 10 17:58 - 18:51 (00:52)
zmostaf :0 :0 Wed Nov 3 17:49 - down (00:59)

wtmp begins Thu Sep 16 02:03:12 2021
zmostafa@c1s106student:~/lab5$

```

```

zmostafa@c1s106student:~/lab5$ cut -d '=' -f1 /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:/usr/sbin:/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:11:13: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:MailList 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/chron:/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
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
zmostafa:x:1000:1000:zmostafa,,/home/zmostafa:/bin/bash

```

```

zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~/lab5$ cut -f1,3 /etc/passwd | sort
_:x:105:65534::/nonexistent:/usr/sbin/nologin
avahi-autopd:x:109:116:Avahi autopd daemon,,,:/var/lib/avahi/autopd:/usr/sbin/nologin
avahi:x:115:122: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:/usr/sbin/nologin
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
cups-pk-helper:x:113:70: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
_flatpak:x:127:135:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
games:x:5:60:games:/usr/games:/usr/sbin/nologin
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
geoclue:x:122:127::/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:124:65534::/run/gnome-initial-setup:/bin/false
hplip:x:119:7:HP/HP system user,,,:/run/hplip:/bin/false
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
kernoops:x:116:65534:kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
list:x:38:38:Mail List Manager:/var/list:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
nn-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
root:x:0:0:root:/root:/bin/bash
rtkit:x:111:117:RealtimeKit,,,:/proc:/usr/sbin/nologin
saned:x:117:123::/var/lib/saned:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
syslog:x:104:110::/home/syslog:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/:/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
sys:x:3:3:sys:/dev:/usr/sbin/nologin
tcpdump:x:108:115::/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
uuid:x:107:114::/run/uuid:/usr/sbin/nologin
vboxadd:x:988:1::/var/run/vboxadd:/bin/false

```

### Answer3

```

zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~/lab5$ wc -l /etc/passwd
49 /etc/passwd
zmoustafa@cis106student:~/lab5$ wc -w /etc/passwd
90 /etc/passwd
zmoustafa@cis106student:~/lab5$ cat /etc/passwd | grep -c "/bin/bash"
2
zmoustafa@cis106student:~/lab5$ cat /etc/passwd | grep -c /sbin/nologin
39
zmoustafa@cis106student:~/lab5$

```

## Answer4

```
zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~/lab5$ ip ad | grep "inet"
inet 127.0.0.1/8 scope host lo
inet6 ::1/128 scope host
inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
inet6 fe80::71ed:e004:863:eb8e/64 scope link noprefixroute
zmoustafa@cis106student:~/lab5$ ip ad | grep "inet6"
inet6 ::1/128 scope host
inet6 fe80::71ed:e004:863:eb8e/64 scope link noprefixroute
zmoustafa@cis106student:~/lab5$ ip add | grep -E "inet | inet6"
inet 127.0.0.1/8 scope host lo
inet6 ::1/128 scope host
inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
inet6 fe80::71ed:e004:863:eb8e/64 scope link noprefixroute
zmoustafa@cis106student:~/lab5$ ip add | grep "ine" | head -3
inet 127.0.0.1/8 scope host lo
inet6 ::1/128 scope host
inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
zmoustafa@cis106student:~/lab5$ ip add | grep "inet" | head -3 | tail -1
inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
zmoustafa@cis106student:~/lab5$
```

## Answer5

```
zmoustafa@cis106student: ~/lab5
zmoustafa@cis106student:~/lab5$ echo "# Information about mu pc" > mypc.md
zmoustafa@cis106student:~/lab5$ ls
mypc.md
zmoustafa@cis106student:~/lab5$ echo ## CPU Information >> mypc.md

zmoustafa@cis106student:~/lab5$
zmoustafa@cis106student:~/lab5$ cat mypc.md
# Information about mu pc
zmoustafa@cis106student:~/lab5$ lscpu | grep -i "architecture" >> mypc.md
zmoustafa@cis106student:~/lab5$ lscpu | grep -i "threads" >> mypc.md
zmoustafa@cis106student:~/lab5$ lscpu | grep -i "cores" >> mypc.md

Command 'lscpu' not found, did you mean:
  command 'lscpu' from deb util-linux (2.34-0.1ubuntu9.1)
  command 'lssu' from deb nilfs-tools (2.2.8-1)
  command 'lsgpu' from deb intel-gpu-tools (1.25-2)

Try: sudo apt install <deb name>

zmoustafa@cis106student:~/lab5$ echo "## RAM Information"
## RAM Information
zmoustafa@cis106student:~/lab5$ cat mypc.md
# Information about mu pc
Architecture:          x86_64
zmoustafa@cis106student:~/lab5$ lscpu | grep -i "threads" >> mypc.md
zmoustafa@cis106student:~/lab5$ cat mypc.md
# Information about mu pc
Architecture:          x86_64
zmoustafa@cis106student:~/lab5$
```