

Question 1

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nova@nova-VirtualBox: ~/lab5
nova@nova-VirtualBox: ~/lab7/question4
nova@nova-VirtualBox:~/lab7/question4$ cd ..
nova@nova-VirtualBox:~/lab7$ cd ..
nova@nova-VirtualBox:~$ mkdir lab5/
nova@nova-VirtualBox:~$ cd lab5/
nova@nova-VirtualBox:~/lab5$ 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:/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

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nova@nova-VirtualBox: ~/lab5
nova@nova-VirtualBox: ~/lab7/question4
nova@nova-VirtualBox:~/lab5$ tac /etc/passwd
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
_flatpak:x:126:134:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
vboxadd:x:998:1:/:/var/run/vboxadd:/bin/false
sshhd:x:127:65534:/:/run/sshhd:/usr/sbin/nologin
nova@nova-VirtualBox:~/lab5$ tac /etc/passwd
sshhd:x:127:65534:/:/run/sshhd:/usr/sbin/nologin
vboxadd:x:998:1:/:/var/run/vboxadd:/bin/false
_flatpak:x:126:134:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/:/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
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
nova:x:1000:1000:nova,,,:/home/nova:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
_flatpak:x:126:134:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
vboxadd:x:998:1:/:/var/run/vboxadd:/bin/false
sshhd:x:127:65534:/:/run/sshhd:/usr/sbin/nologin
nova@nova-VirtualBox:~/lab5$ tac /etc/passwd
sshhd:x:127:65534:/:/run/sshhd:/usr/sbin/nologin
vboxadd:x:998:1:/:/var/run/vboxadd:/bin/false
_flatpak:x:126:134:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin

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systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
nova:x:1000:1000:nova,,,:/home/nova:/bin/bash
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
gnome-initial-setup:x:124:65534:/:run/gnome-initial-setup:/bin/false

nova@nova-VirtualBox:~/lab5$ 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:/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$

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 geoclue:x:122:127:/:var/lib/geoclue:/usr/sbin/nologin$
42 pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin$
43 gnome-initial-setup:x:124:65534:/:run/gnome-initial-setup:/bin/false$
44 gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false$
45 nova:x:1000:1000:nova,,,:/home/nova:/bin/bash$
46 systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin$
47 _flatpak:x:126:134:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin$
48 vboxadd:x:998:1:/:var/run/vboxadd:/bin/false$
49 sshd:x:127:65534:/:run/ssh:/usr/sbin/nologin$

nova@nova-VirtualBox:~/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

nova@nova-VirtualBox:~/lab5$ tail -5 /etc/passwd
nova:x:1000:1000:nova,,,:/home/nova:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
_flatpak:x:126:134:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
vboxadd:x:998:1:/:var/run/vboxadd:/bin/false
sshd:x:127:65534:/:run/ssh:/usr/sbin/nologin
nova@nova-VirtualBox:~/lab5$

```

Question 2

```
nova@nova-VirtualBox:~/lab5$ cut -d ':' -f 1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
systemd-timesync
messagebus
syslog
_apt
tss
uidd
tcpdump
avahi-autoipd
usbmux
rtkit
dnsmasq
cups-pk-helper
speech-dispatcher
avahi
nova
systemd-coredump
_flatpak
vboxadd
sshd
nova@nova-VirtualBox:~/lab5$ tail -5 /etc/passwd | cut -d ':' -f 1
nova
systemd-coredump
_flatpak
vboxadd
sshd
nova@nova-VirtualBox:~/lab5$ cat /etc/passwd | cut -d ':' -f 1,7
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
```

```
_flatpak:/usr/sbin/nologin
vboxadd:/bin/false
sshd:/usr/sbin/nologin
nova@nova-VirtualBox:~/lab5$ cut -d ':' -f1,3 /etc/passwd | sort -k 2n
_apt:105
avahi:115
avahi-autoipd:109
backup:34
bin:2
colord:121
cups-pk-helper:113
daemon:1
dnsmasq:112
_flatpak:126
games:5
gdm:125
geoclue:122
gnats:41
gnome-initial-setup:124
hplip:119
irc:39
kernoops:116
list:38
lp:7
mail:8
man:6
messagebus:103
www-data:33
nova@nova-VirtualBox:~/lab5$ tail -5 /etc/passwd | cut -d ':' -f1,3 | sort
_flatpak:126
nova:1000
sshd:127
systemd-coredump:999
vboxadd:998
nova@nova-VirtualBox:~/lab5$
```

Question 3

```
nova@nova-VirtualBox: ~/lab5
nova@nova-VirtualBox: ~/lab7/question4 x nova@nova-VirtualBox: ~/lab5 x
uuid:107
vboxadd:998
whoopsie:120
www-data:33
nova@nova-VirtualBox:~/lab5$ tail -5 /etc/passwd | cut -d ':' -f1,3 | sort
_flatpak:126
nova:1000
sshd:127
systemd-coredump:999
vboxadd:998
nova@nova-VirtualBox:~/lab5$ wc -l /etc/passwd
49 /etc/passwd
nova@nova-VirtualBox:~/lab5$ wc -w/etc/password
wc: invalid option -- '/'
Try 'wc --help' for more information.
nova@nova-VirtualBox:~/lab5$ wc -w/etc/passwd
wc: invalid option -- '/'
Try 'wc --help' for more information.
nova@nova-VirtualBox:~/lab5$ wc -w/etc/passwd
wc: invalid option -- '/'
Try 'wc --help' for more information.
nova@nova-VirtualBox:~/lab5$ wc -l /etc/passwd
49 /etc/passwd
nova@nova-VirtualBox:~/lab5$ wc -w /etc/passwd
87 /etc/passwd
nova@nova-VirtualBox:~/lab5$ grep '/bin/bash' /etc/password | wc -l
grep: /etc/password: No such file or directory
0
nova@nova-VirtualBox:~/lab5$ grep '/bin/bash' /etc/passwd | wc -l
2
nova@nova-VirtualBox:~/lab5$ grep '/bin/nologin' /etc/passwd | wc -l
0
nova@nova-VirtualBox:~/lab5$ grep nova /etc/passwd
nova:x:1000:1000:nova,,,:/home/nova:/bin/bash
nova@nova-VirtualBox:~/lab5$
```

Question 4

```
nova@nova-VirtualBox: ~/lab5
nova@nova-VirtualBox: ~/lab7/question4 x nova@nova-VirtualBox: ~/lab5 x
2
nova@nova-VirtualBox:~/lab5$ grep '/bin/nologin' /etc/passwd | wc -l
0
nova@nova-VirtualBox:~/lab5$ grep nova /etc/passwd
nova:x:1000:1000:nova,,,:/home/nova:/bin/bash
nova@nova-VirtualBox:~/lab5$ ip add | 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::a32a:dcaa:56f1:f179/64 scope link noprefixroute
nova@nova-VirtualBox:~/lab5$ ip add | grep 'inet' | wc -l
> ^C
nova@nova-VirtualBox:~/lab5$ ip add | grep 'inet' | wc -l
4
nova@nova-VirtualBox:~/lab5$ ip add | grep 'inet6' | tac
inet6 fe80::a32a:dcaa:56f1:f179/64 scope link noprefixroute
inet6 ::1/128 scope host
nova@nova-VirtualBox:~/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::a32a:dcaa:56f1:f179/64 scope link noprefixroute
nova@nova-VirtualBox:~/lab5$ ip add | grep -E 'inet|inet6' | sort -o sortedIPadd.txt
nova@nova-VirtualBox:~/lab5$ ls
sortedIPadd.txt
nova@nova-VirtualBox:~/lab5$ ip add | grep 'inet' | head -3 | tail -1
> ^C
nova@nova-VirtualBox:~/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
nova@nova-VirtualBox:~/lab5$ ip ad | grep -E -o '[:digit:]{1,3}\.[:digit:]{1,3}\.[:digit:]{1,3}\.[:digit:]{1,3}' | sort
10.0.2.15
10.0.2.255
127.0.0.1
```

Question 5

```
10.0.2.255
127.0.0.1
nova@nova-VirtualBox:~/lab5$ echo '# Information about my pc' > mypc.md
nova@nova-VirtualBox:~/lab5$ ls
mypc.md sortedIPadd.txt
nova@nova-VirtualBox:~/lab5$ echo '## CPU Information' > mypc.md
nova@nova-VirtualBox:~/lab5$ cat mypc.md
## CPU Information
nova@nova-VirtualBox:~/lab5$ lscpu | grep -i "architecture" >> mypc.md
nova@nova-VirtualBox:~/lab5$ lscpu | grep -i "thread(s)" >> mypc.md
nova@nova-VirtualBox:~/lab5$ lscpu | grep -i "core(s)" >> mypc.md
nova@nova-VirtualBox:~/lab5$ lscpu | grep -i "model name" >> mypc.md
nova@nova-VirtualBox:~/lab5$ lscpu | grep -i "cpu m" >> mypc.md
nova@nova-VirtualBox:~/lab5$ lscpu | grep -i "virtualization" >> mypc.md
nova@nova-VirtualBox:~/lab5$ cat mypc.md
## CPU Information
Architecture:                x86_64
Thread(s) per core:          1
Core(s) per socket:          2
Model name:                   Intel(R) Core(TM) i7-1065G7 CPU @ 1.30GHz
CPU MHz:                      1497.601
Virtualization type:          full
nova@nova-VirtualBox:~/lab5$ echo '## RAM Information' >> mypc.md
> ^C
nova@nova-VirtualBox:~/lab5$ echo '## RAM Information' >> mypc.md
nova@nova-VirtualBox:~/lab5$ lslw -c memory | grep 'site' >> mypc.md

Command 'lslw' not found, did you mean:

  command 'lshw' from deb lshw (02.18.85-0.3ubuntu2.20.04.1)
  command 'lsw' from deb suckless-tools (44-1)

Try: sudo apt install <deb name>
nova@nova-VirtualBox:~/lab5$ lshw -c memory | grep 'site' >> mypc.md
```