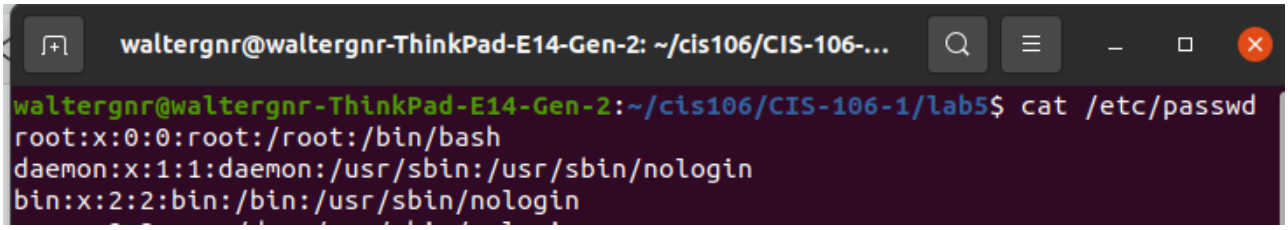
Lab 5 | Handling Text Files

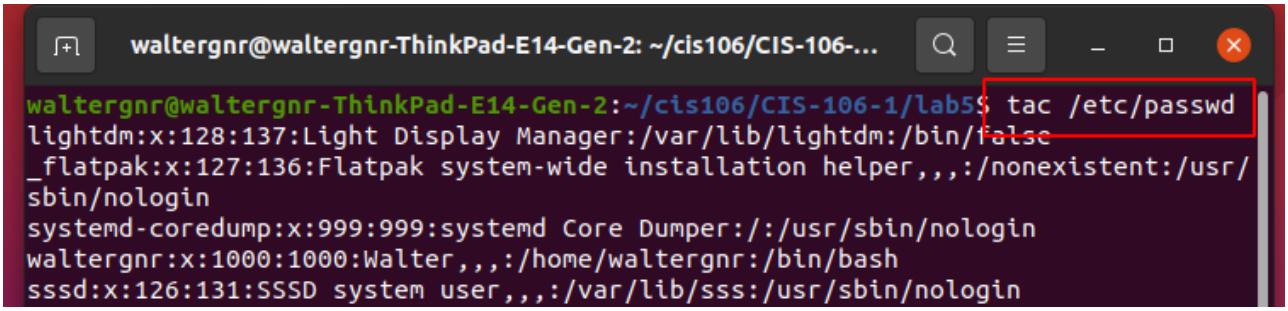
Question 1

Cat, head and tail commands are used for displaying the content of a file.

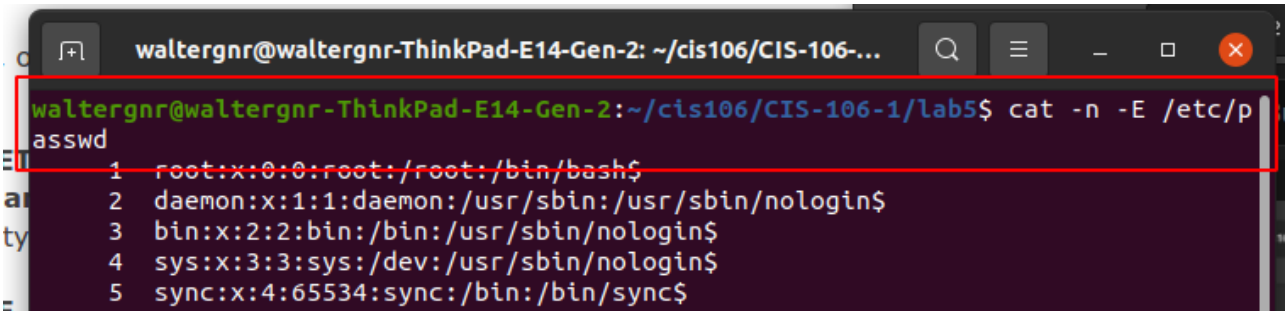
1. Display the content of the `/etc/passwd` file.



2. Display the content of the `/etc/passwd` file in reverse order.

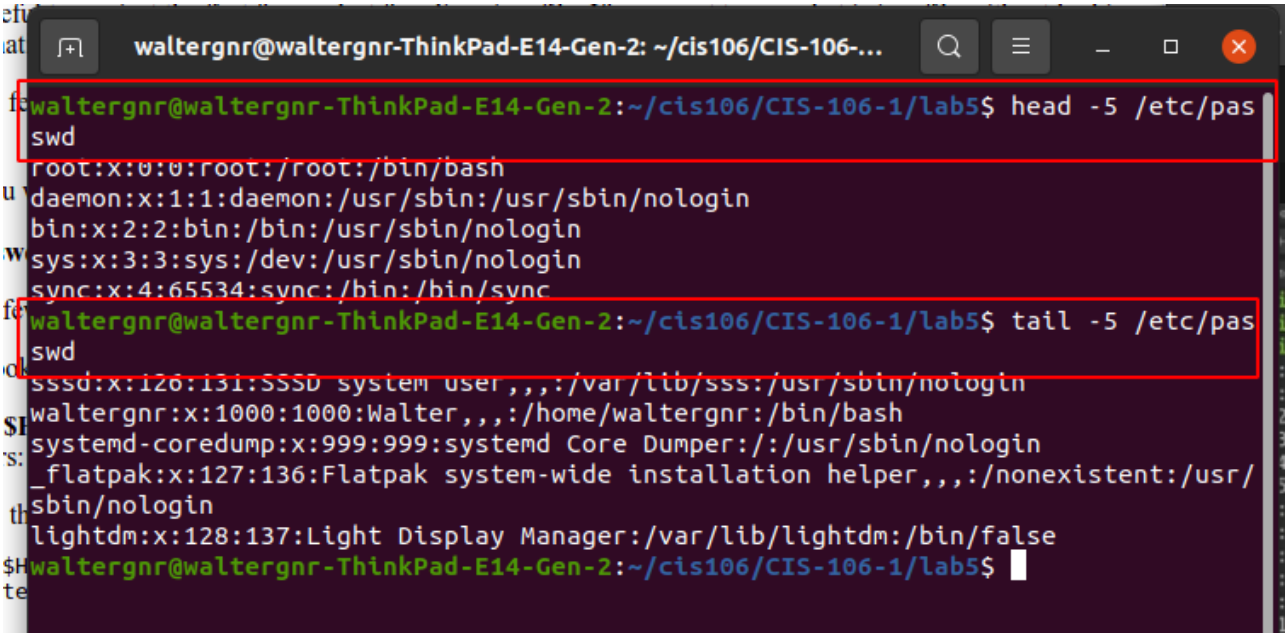


3. Display the content of the `/etc/passwd` file with line numbers and the $ to indicate the end of every line.



4. Display the first 5 lines of a the `/etc/passwd` file.

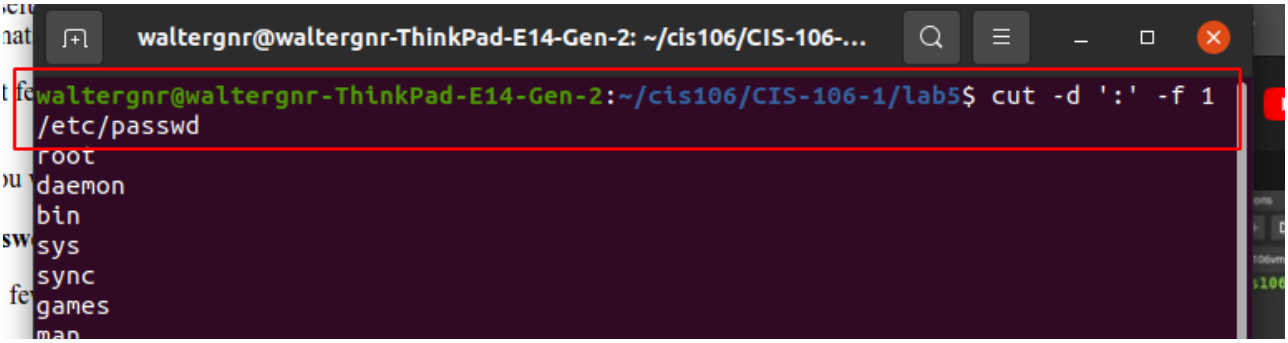
5. Display the last 5 lines of the `/etc/passwd` file.



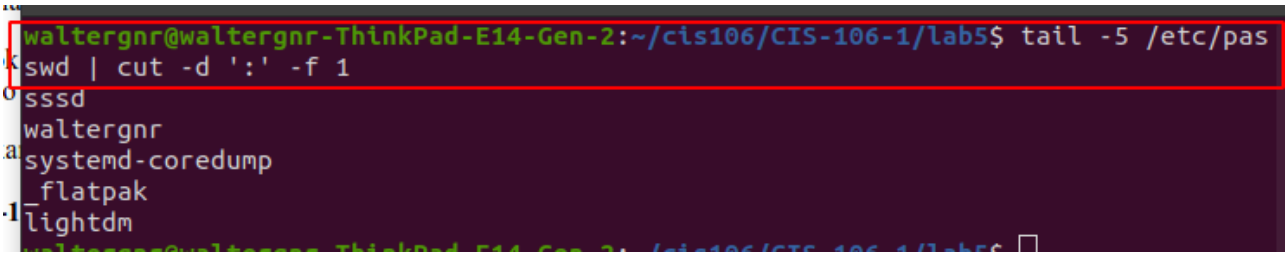
Question 2

The cut command is very useful when working with files that are already formatted using a field separator. The cut command can show specific information about each line of text in a given file.

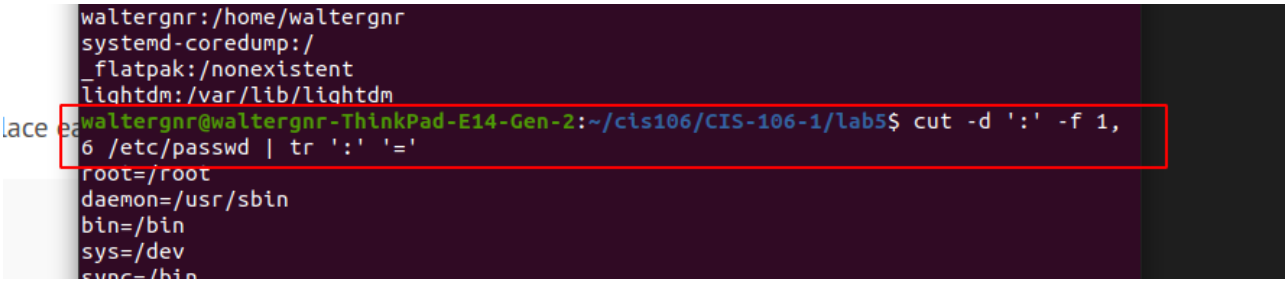
1. Display the first field of the `/etc/passwd` file.



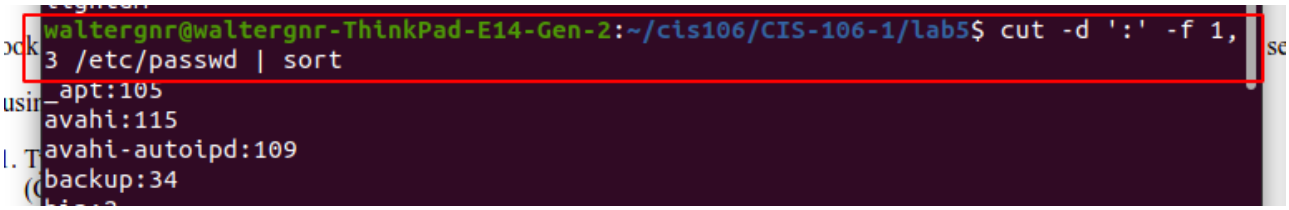
2. Display the last 5 users in the `/etc/passwd` file.



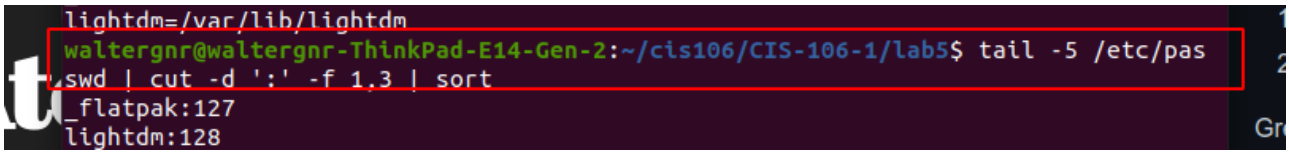
3. Display a list of all the users and their designated login shell separated by an `=` sign.



4. The sort command is another amazing tool in any linux user's tool box. Sort allows you to display data in a given order. Cut the first and 3rd field of the `/etc/passwd` field and sort the output.



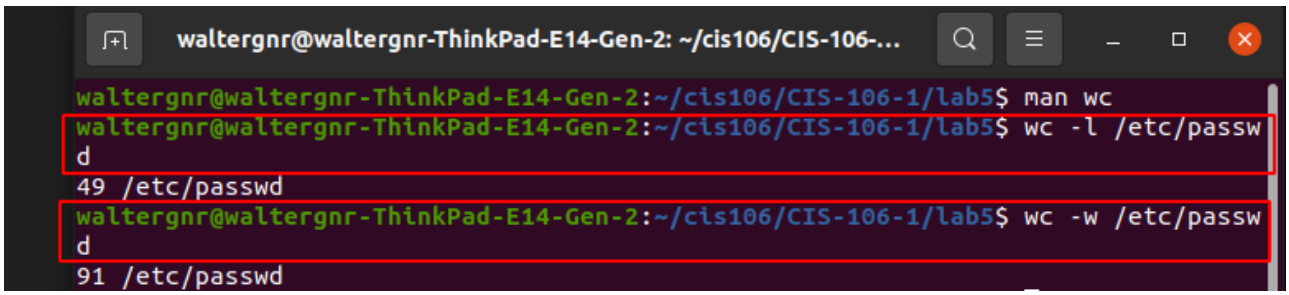
5. Repeat the previous command but this time only show the last 5 entries.



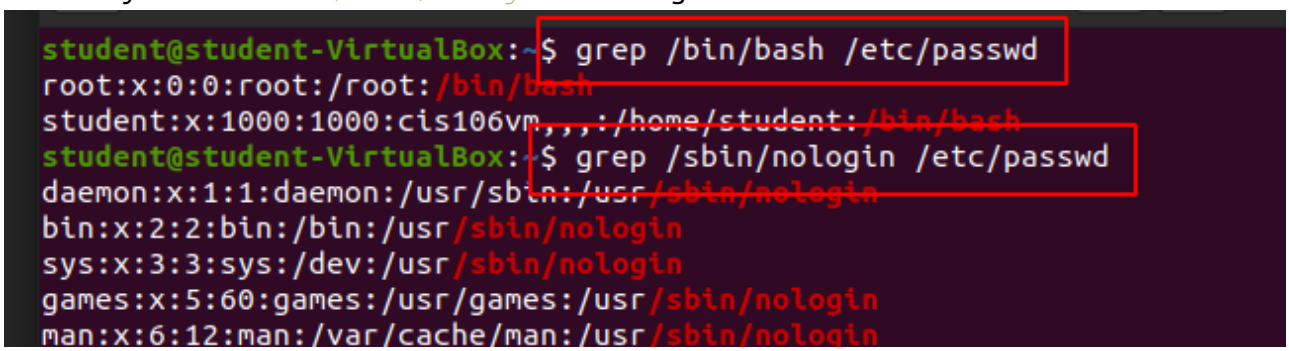
Question 3

The wc command is used to count the number of lines, characters and words in a file.

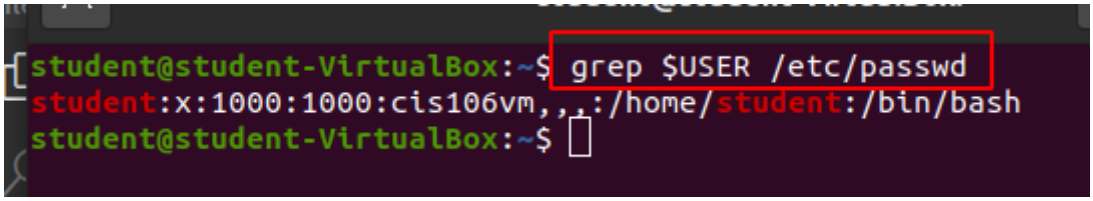
1. How many lines does the `/etc/passwd` file have?
2. How many words does the `/etc/passwd` file have?



3. How many users can login with the `/bin/bash` shell?
4. How many users have the `/sbin/nologin` shell assigned?



5. Display your user's information in `/etc/passwd` file



Question 4

1. Run the `ip ad` command and display all the lines that match the string `inet`. How many lines did you get?

```
student@student-VirtualBox:~$ ip ad | grep 'inet'
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
    inet 192.168.1.213/24 brd 192.168.1.255 scope global dynamic noprefixroute e
np0s3
    inet6 fe80::48cd:9391:7776:3f05/64 scope link noprefixroute
student@student-VirtualBox:~$ ip ad | grep 'inet' | wc -l
4
student@student-VirtualBox:~$
```

2. Run the `ip ad` command and display all the lines that match the string `inet6`. Display the output in reverse order.

```
student@student-VirtualBox:~$ ip ad | grep 'inet6'
    inet6 ::1/128 scope host
    inet6 fe80::48cd:9391:7776:3f05/64 scope link noprefixroute
student@student-VirtualBox:~$ ip ad | grep 'inet6' | tac
    inet6 fe80::48cd:9391:7776:3f05/64 scope link noprefixroute
    inet6 ::1/128 scope host
student@student-VirtualBox:~$
```

3. Run the `ip ad` command and display all the lines that match the string `inet` or `inet6` sort the output and save it to a file.
4. Run the `ip ad` command and display only the 3rd line that matches the string `inet`.
5. Run the `ip ad` command and display all the ipv4 addresses sorted.

```
student@student-VirtualBox:~$ ip ad | grep -E 'inet|inet6' | sort > ~/Downloads/
ipadress.txt
student@student-VirtualBox:~$ ip ad | grep 'inet' | head -3 | tail -1
    inet 192.168.1.213/24 brd 192.168.1.255 scope global dynamic noprefixroute e
np0s3
student@student-VirtualBox:~$ ip ad | grep -E '([0-9]{1,3}[\.]){3}[0-9]{1,3}'
    inet 127.0.0.1/8 scope host lo
    inet 192.168.1.213/24 brd 192.168.1.255 scope global dynamic noprefixroute e
np0s3
student@student-VirtualBox:~$
```

Question 5

1. Run the following command and save the output to a markdown file: `echo "# Information about my pc"`. You can use any naming convention you want for the file as long as it is a markdown file.

2. Run the following command and append the output to the markdown file you created earlier: `echo "## CPU Information"`

3. The `lscpu` command displays a lot of information about the CPU the computer has. Use the `lscpu`, `grep`, and the pipe (|) to extract, and append to the file you created earlier, the following information from the output of the `lscpu` command:

    - Architecture
    - Threads
    - Cores
    - Model name
    - CPU Frequency

- Virtualiation technology supported

4. Run the following command and append the output to the markdown file you created earlier: `echo "## RAM Information"`

5. The command `lshw -c memory` displays information about the RAM installed in your system. Extract and append to the file the following information:

   - Memory size:

6. Display the content of the file you created earlier showing all the data that has been appended so far.