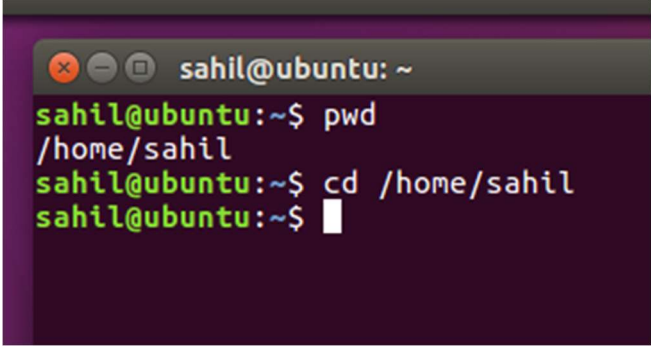


Linux1-Project1

1. Go to your home folder using a full absolute path reference.

A terminal window with a dark purple background and a grey title bar. The title bar contains three window control buttons (close, minimize, maximize) and the text 'sahil@ubuntu: ~'. The terminal shows three lines of text: the first line is 'sahil@ubuntu:~\$ pwd' followed by the output '/home/sahil' on the next line; the second line is 'sahil@ubuntu:~\$ cd /home/sahil'; and the third line is 'sahil@ubuntu:~\$' followed by a white cursor block.

```
sahil@ubuntu: ~
sahil@ubuntu:~$ pwd
/home/sahil
sahil@ubuntu:~$ cd /home/sahil
sahil@ubuntu:~$
```

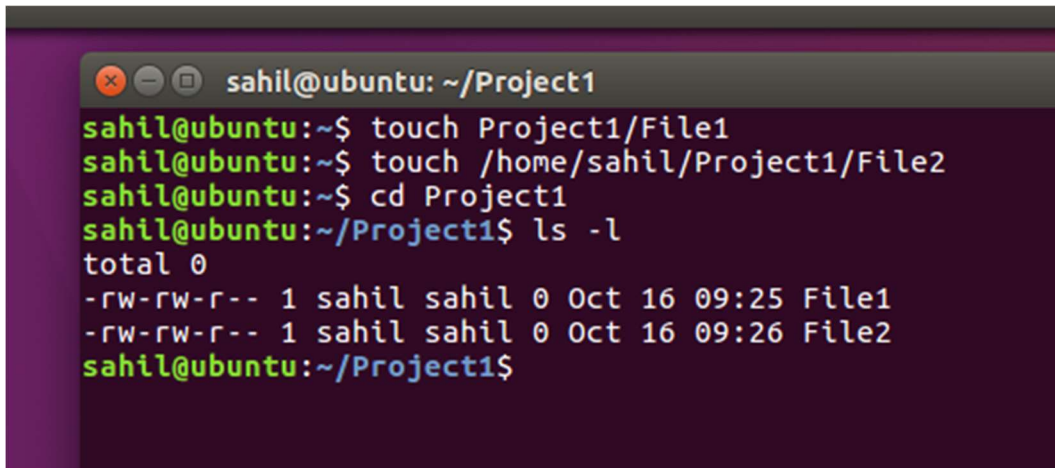
Linux1-Project1

2. Using a relative path reference, create a new folder in your home folder called Project1.

```
mkfs.bfs          mkfs.msdos          mk_modmap
sahil@ubuntu:~$ mkdir Project1
sahil@ubuntu:~$ ls -ls
total 60
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Desktop
 4 drwxr-xr-x 2 sahil sahil 4096 Oct  3 17:28 Documents
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Downloads
12 -rw-r--r-- 1 sahil sahil 8980 Sep 17 12:54 examples.desktop
 4 drwxrwxr-x 2 sahil sahil 4096 Sep 24 12:36 file.txt
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Music
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Pictures
 4 drwxrwxr-x 2 sahil sahil 4096 Oct 16 09:19 Project1
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Public
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Templates
 4 drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Videos
 4 drwxrwxr-x 2 sahil sahil 4096 Oct  1 12:32 week5
 4 drwxrwxr-x 2 sahil sahil 4096 Sep 24 12:23 week6
sahil@ubuntu:~$
```

Linux1-Project1

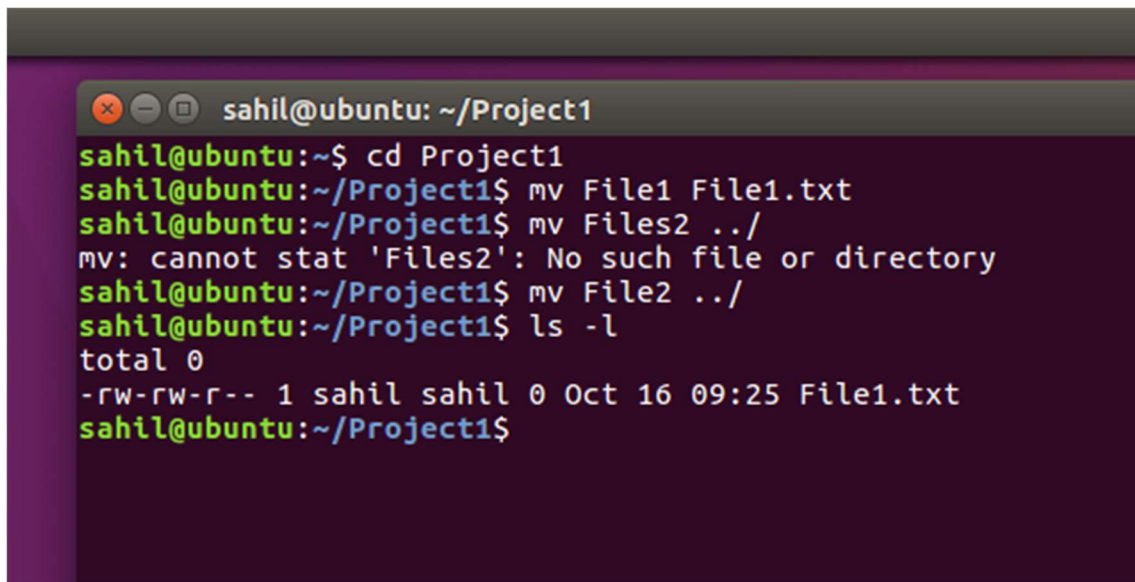
3. Using a relative path reference, create a new file in the Project1 folder (without going into folder) called File1. Create another file called File2 in Project1 using an absolute path reference.

A terminal window titled 'sahil@ubuntu: ~/Project1' showing a series of commands and their outputs. The commands are: 'touch Project1/File1', 'touch /home/sahil/Project1/File2', 'cd Project1', and 'ls -l'. The output of 'ls -l' shows two files, 'File1' and 'File2', with their permissions, sizes, owners, and timestamps.

```
sahil@ubuntu: ~/Project1
sahil@ubuntu:~$ touch Project1/File1
sahil@ubuntu:~$ touch /home/sahil/Project1/File2
sahil@ubuntu:~$ cd Project1
sahil@ubuntu:~/Project1$ ls -l
total 0
-rw-rw-r-- 1 sahil sahil 0 Oct 16 09:25 File1
-rw-rw-r-- 1 sahil sahil 0 Oct 16 09:26 File2
sahil@ubuntu:~/Project1$
```

Linux1-Project1

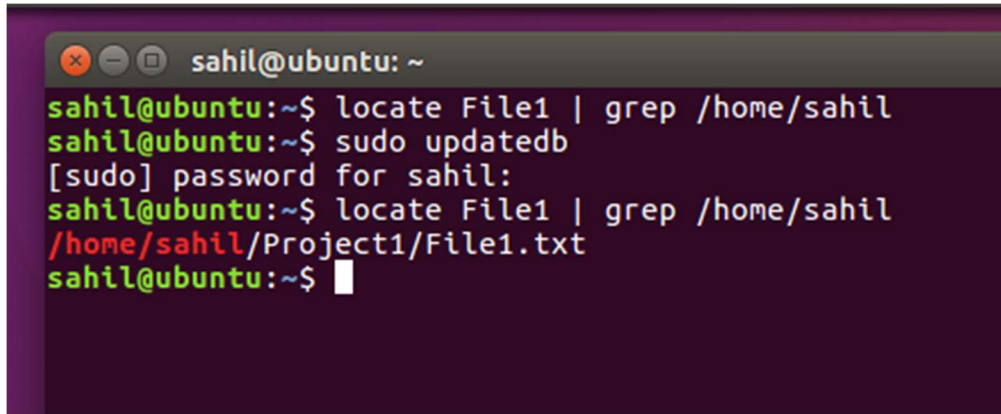
4. Go inside Project1 folder. Rename File1 to File1.txt. Move File2 to a folder one above in the tree structure using a relative path name (ie. move it to your home folder, but do not use ~ or cd).



```
sahil@ubuntu: ~/Project1
sahil@ubuntu:~$ cd Project1
sahil@ubuntu:~/Project1$ mv File1 File1.txt
sahil@ubuntu:~/Project1$ mv Files2 ../
mv: cannot stat 'Files2': No such file or directory
sahil@ubuntu:~/Project1$ mv File2 ../
sahil@ubuntu:~/Project1$ ls -l
total 0
-rw-rw-r-- 1 sahil sahil 0 Oct 16 09:25 File1.txt
sahil@ubuntu:~/Project1$
```

Linux1-Project1

5. Use the locate function to find File1.txt while narrowing down the results to your home folder. If it didn't work, explain why and show how you should correct the problem.

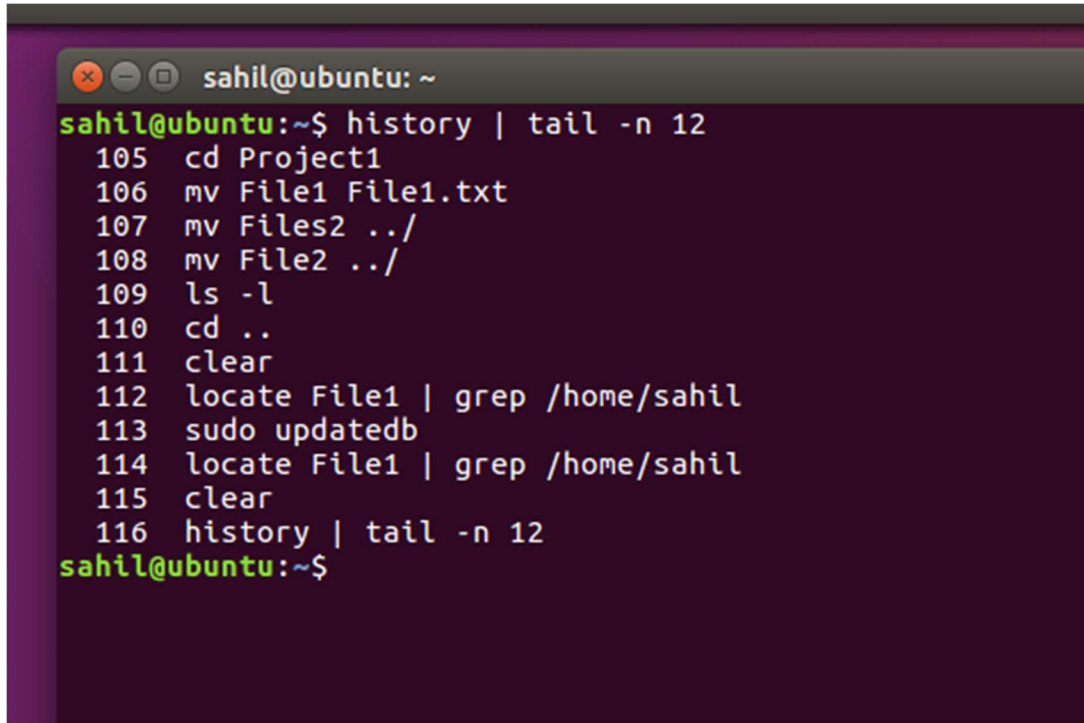
A terminal window with a dark purple background and a title bar that reads 'sahil@ubuntu: ~'. The terminal shows a sequence of commands and their outputs. The first command is 'locate File1 | grep /home/sahil', which produces no output. The second command is 'sudo updatedb', followed by a prompt for the password 'sahil'. The third command is 'locate File1 | grep /home/sahil', which now outputs '/home/sahil/Project1/File1.txt' in red text. The prompt returns to 'sahil@ubuntu:~\$' with a cursor.

```
sahil@ubuntu:~$ locate File1 | grep /home/sahil
sahil@ubuntu:~$ sudo updatedb
[sudo] password for sahil:
sahil@ubuntu:~$ locate File1 | grep /home/sahil
/home/sahil/Project1/File1.txt
sahil@ubuntu:~$
```

It didn't work the first time because the file database, needed to be updated. After running the updatedb command, it worked as intended.

Linux1-Project1

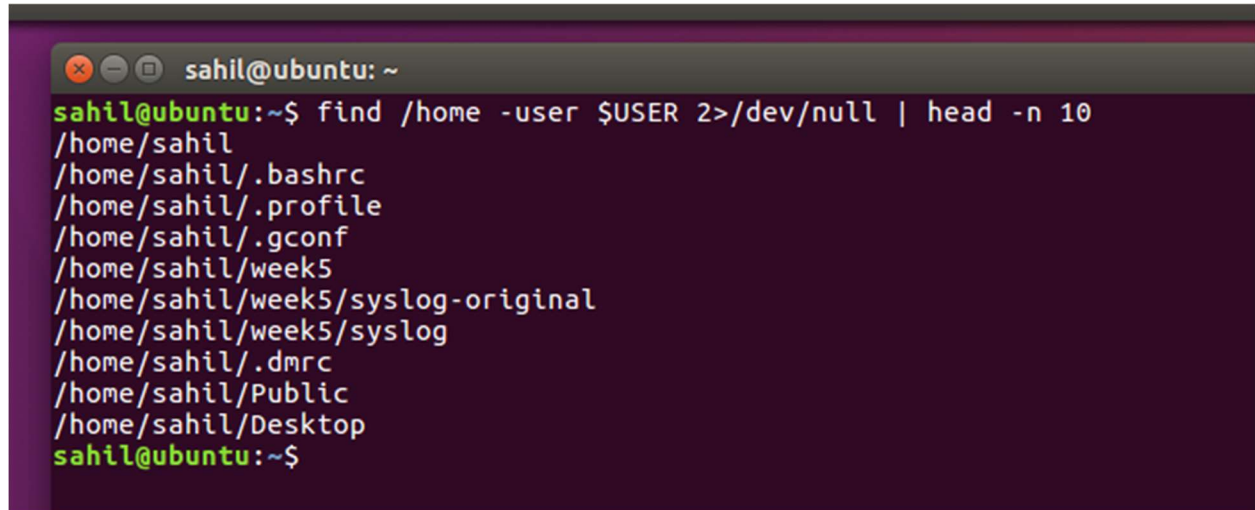
6. Display last 12 entries in your history file using a combination of two commands.



```
sahil@ubuntu: ~  
sahil@ubuntu:~$ history | tail -n 12  
105 cd Project1  
106 mv File1 File1.txt  
107 mv Files2 ../  
108 mv File2 ../  
109 ls -l  
110 cd ..  
111 clear  
112 locate File1 | grep /home/sahil  
113 sudo updatedb  
114 locate File1 | grep /home/sahil  
115 clear  
116 history | tail -n 12  
sahil@ubuntu:~$
```

Linux1-Project1

7. Use the find command to find all files owned by you in the /home folder. Make sure all errors are suppressed (not displayed). Filter the output to show just first 10 results.

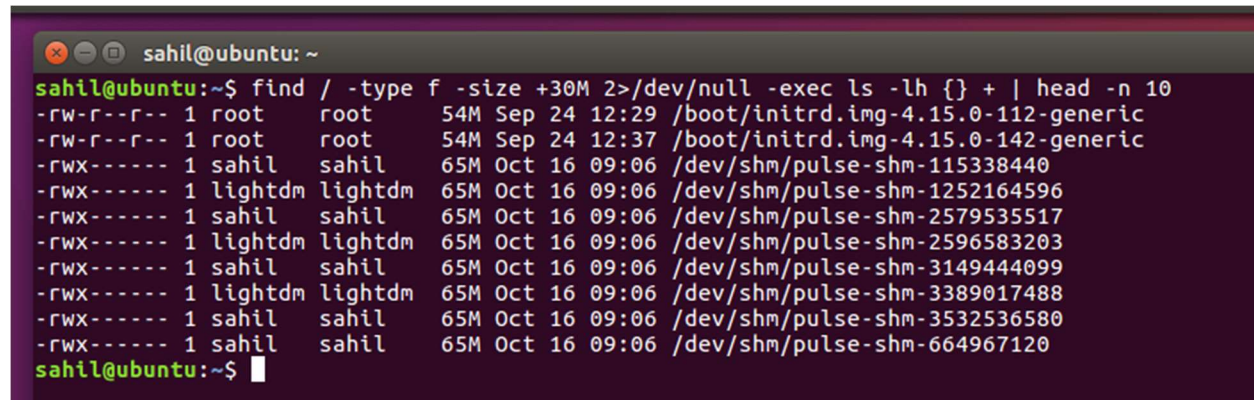


```
sahil@ubuntu: ~  
sahil@ubuntu:~$ find /home -user $USER 2>/dev/null | head -n 10  
/home/sahil  
/home/sahil/.bashrc  
/home/sahil/.profile  
/home/sahil/.gconf  
/home/sahil/week5  
/home/sahil/week5/syslog-original  
/home/sahil/week5/syslog  
/home/sahil/.dmrc  
/home/sahil/Public  
/home/sahil/Desktop  
sahil@ubuntu:~$
```

Linux1-Project1

8. Use the find command to find all files in the file system which are greater than 30 megabytes. Make sure all errors are suppressed (not displayed) and that your results are passed through the ls command shown with file details and “human readable” file sizes (use the -exec option in find command). Filter the output to show just first 10 results.

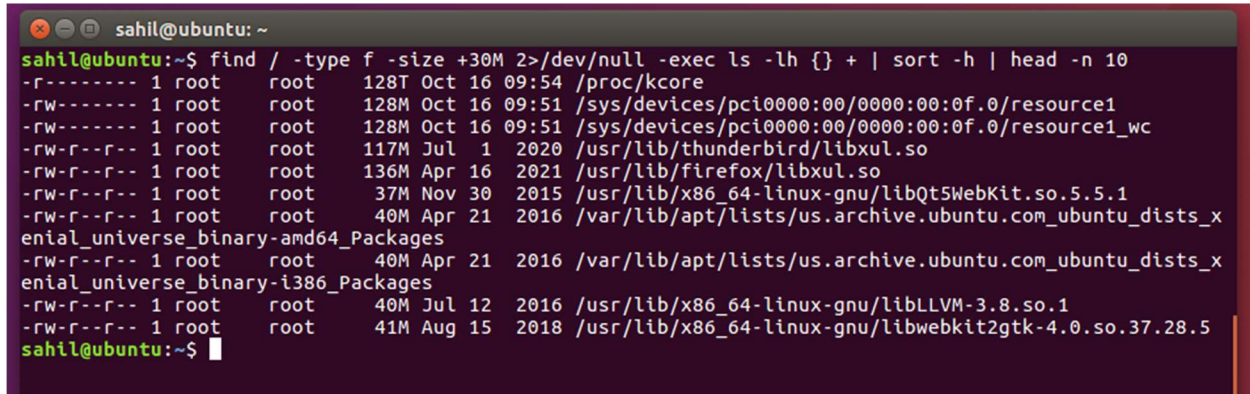
*NOTE: if you get less than 10 results, use a smaller size than 30mb in this and subsequent steps

A terminal window titled 'sahil@ubuntu: ~' showing the execution of a find command. The command is 'find / -type f -size +30M 2>/dev/null -exec ls -lh {} + | head -n 10'. The output lists 10 files, including two initrd images and eight shared memory files. The terminal has a dark purple background with green and white text.

```
sahil@ubuntu:~$ find / -type f -size +30M 2>/dev/null -exec ls -lh {} + | head -n 10
-rw-r--r-- 1 root root 54M Sep 24 12:29 /boot/initrd.img-4.15.0-112-generic
-rw-r--r-- 1 root root 54M Sep 24 12:37 /boot/initrd.img-4.15.0-142-generic
-rwx----- 1 sahil sahil 65M Oct 16 09:06 /dev/shm/pulse-shm-115338440
-rwx----- 1 lightdm lightdm 65M Oct 16 09:06 /dev/shm/pulse-shm-1252164596
-rwx----- 1 sahil sahil 65M Oct 16 09:06 /dev/shm/pulse-shm-2579535517
-rwx----- 1 lightdm lightdm 65M Oct 16 09:06 /dev/shm/pulse-shm-2596583203
-rwx----- 1 sahil sahil 65M Oct 16 09:06 /dev/shm/pulse-shm-3149444099
-rwx----- 1 lightdm lightdm 65M Oct 16 09:06 /dev/shm/pulse-shm-3389017488
-rwx----- 1 sahil sahil 65M Oct 16 09:06 /dev/shm/pulse-shm-3532536580
-rwx----- 1 sahil sahil 65M Oct 16 09:06 /dev/shm/pulse-shm-664967120
sahil@ubuntu:~$
```


Linux1-Project1

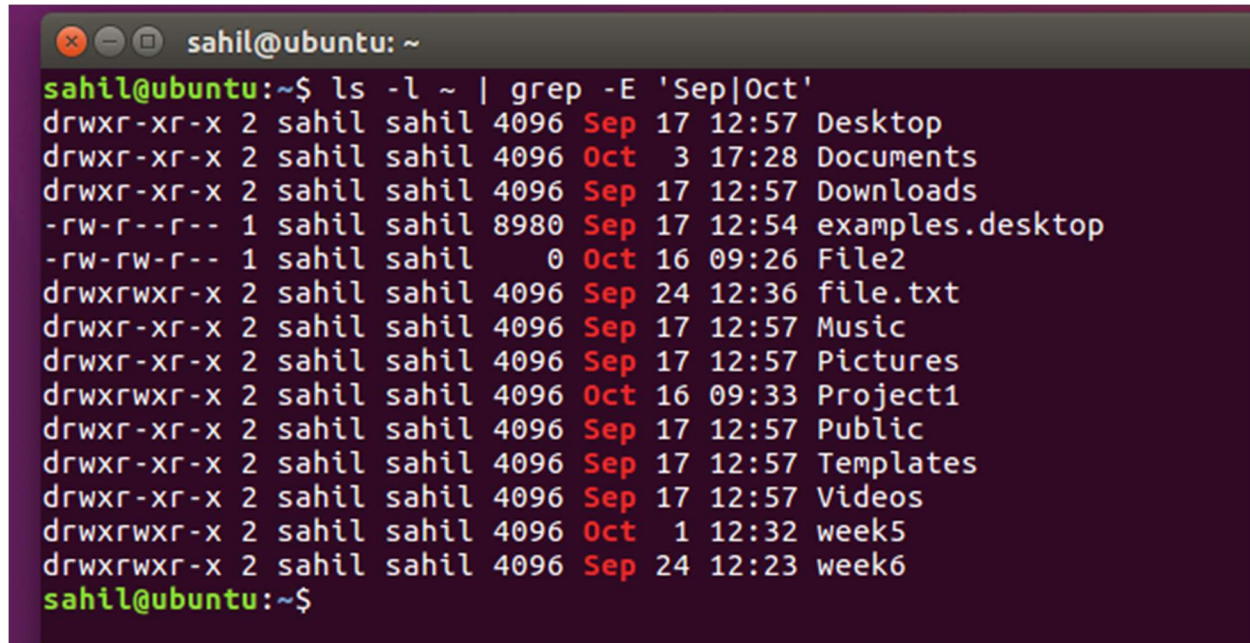
9. Expand the previous command to sort the output by file size, larger numbers first. Use the sort command with “natural” or “human numeric sort” option. Use the man page for sort and document all your findings in a screenshot. Filter the output to show just first 10 results.



```
sahil@ubuntu: ~  
sahil@ubuntu:~$ find / -type f -size +30M 2>/dev/null -exec ls -lh {} + | sort -h | head -n 10  
-r----- 1 root root 128T Oct 16 09:54 /proc/kcore  
-rw----- 1 root root 128M Oct 16 09:51 /sys/devices/pci0000:00/0000:00:0f.0/resource1  
-rw----- 1 root root 128M Oct 16 09:51 /sys/devices/pci0000:00/0000:00:0f.0/resource1_wc  
-rw-r--r-- 1 root root 117M Jul 1 2020 /usr/lib/thunderbird/libxul.so  
-rw-r--r-- 1 root root 136M Apr 16 2021 /usr/lib/firefox/libxul.so  
-rw-r--r-- 1 root root 37M Nov 30 2015 /usr/lib/x86_64-linux-gnu/libQt5WebKit.so.5.5.1  
-rw-r--r-- 1 root root 40M Apr 21 2016 /var/lib/apt/lists/us.archive.ubuntu.com_ubuntu_dists_x  
enial_universe_binary-amd64_Packages  
-rw-r--r-- 1 root root 40M Apr 21 2016 /var/lib/apt/lists/us.archive.ubuntu.com_ubuntu_dists_x  
enial_universe_binary-i386_Packages  
-rw-r--r-- 1 root root 40M Jul 12 2016 /usr/lib/x86_64-linux-gnu/libLLVM-3.8.so.1  
-rw-r--r-- 1 root root 41M Aug 15 2018 /usr/lib/x86_64-linux-gnu/libwebkit2gtk-4.0.so.37.28.5  
sahil@ubuntu:~$
```

Linux1-Project1

10. Show a listing of your home folder contents with details and filter it to display only files and folders last modified during two chosen months (pick some months that make sense for your output).

A terminal window titled 'sahil@ubuntu: ~' showing the execution of the command 'ls -l ~ | grep -E 'Sep|Oct''. The output lists various files and directories in the home directory, including Desktop, Documents, Downloads, examples.desktop, File2, file.txt, Music, Pictures, Project1, Public, Templates, Videos, week5, and week6. Each entry shows permissions, size, owner, group, size, month, day, time, and name. The months 'Sep' and 'Oct' are highlighted in red in the original image.

```
sahil@ubuntu:~$ ls -l ~ | grep -E 'Sep|Oct'
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Desktop
drwxr-xr-x 2 sahil sahil 4096 Oct  3 17:28 Documents
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Downloads
-rw-r--r-- 1 sahil sahil 8980 Sep 17 12:54 examples.desktop
-rw-rw-r-- 1 sahil sahil    0 Oct 16 09:26 File2
drwxrwxr-x 2 sahil sahil 4096 Sep 24 12:36 file.txt
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Music
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Pictures
drwxrwxr-x 2 sahil sahil 4096 Oct 16 09:33 Project1
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Public
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Templates
drwxr-xr-x 2 sahil sahil 4096 Sep 17 12:57 Videos
drwxrwxr-x 2 sahil sahil 4096 Oct  1 12:32 week5
drwxrwxr-x 2 sahil sahil 4096 Sep 24 12:23 week6
sahil@ubuntu:~$
```