COMSATS UNIVERSITY ISLAMABAD
ATTOCK CAMPUS

Lab Report 3 :

Operating System

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Rubrics Assessment Sheet for Operating System	
Lab #:	**Lab no 3**
Lab Title:	**Introduction to Linux Shell**
Submitted by:	
Names **Muaaz Shoaib** **Shahzeb Shaheen**	**Registration** **FA20-BCS-074** **FA20-BCS-040**

Rubrics name & number		Marks	
		ln-Lab	Post lab
Engineering Knowledge	*R2:* Use of Engineering Knowledge and follow Experiment Procedures: *Ability to follow experimental procedure,control variables,and record Procedural steps on lab report.*		
Problem Analysis	*R6: Experimental Data Analysis :* *Ability to interept findings,compare them to values in the literature,identify weaknesses and limitations*		
Design	*RS: Best Coding Staudards:* *Ability lo follow the* coding standards and programming practices		
Modem Tools Usage	*R9: Undcrsta11d Tools: Ability to describe and explain the principles behind applicability of engineering tools*.		
Individual and Teamwork	*R9:Management of Team Work:* *Ability to appreciate, understand and work multidisciplinary team members*		

Rubrics #	R2	R6	RS	R9	Rl3
Jn -Lab					
Post- Lab					

Description :

Shells :

It provide an interface between the user and operating system.

It starts automatically when you log in.

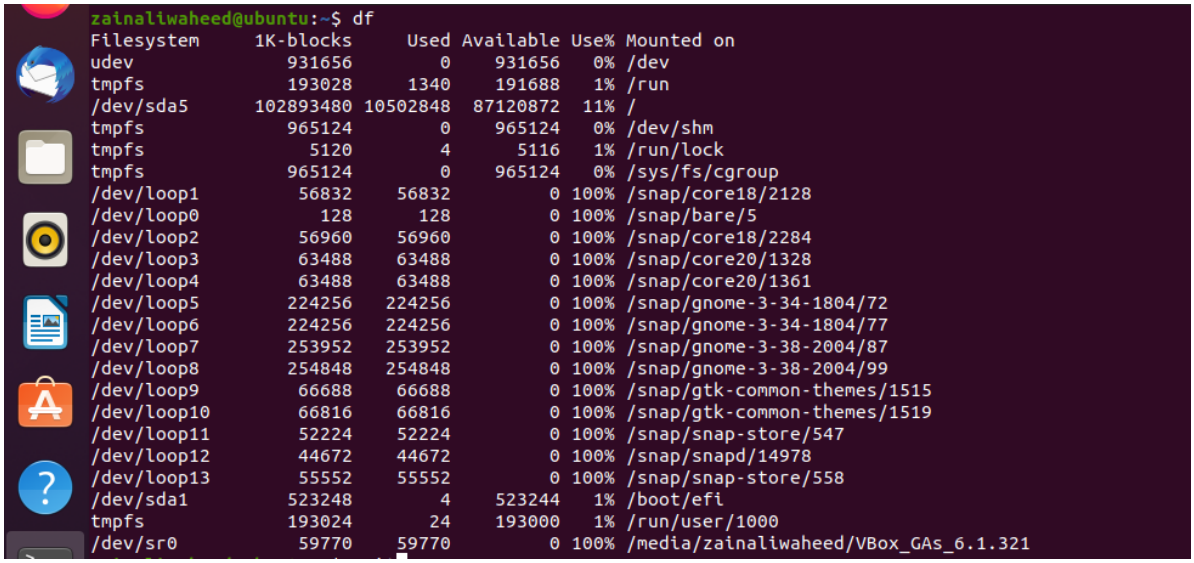
Shell Commands :

Shell Commands consist of words

Seperated by spaces.

. Q1 :

a.Use the df command to display the amount of used and available space on your hard drive.



```
zainaliwaheed@ubuntu:~$ df
Filesystem     1K-blocks     Used Available Use% Mounted on
udev              931656        0    931656   0% /dev
tmpfs             193028     1340    191688   1% /run
/dev/sda5      102893480 10502848  87120872  11% /
tmpfs             965124        0    965124   0% /dev/shm
tmpfs               5120        4      5116   1% /run/lock
tmpfs             965124        0    965124   0% /sys/fs/cgroup
/dev/loop1         56832    56832         0 100% /snap/core18/2128
/dev/loop0           128      128         0 100% /snap/bare/5
/dev/loop2         56960    56960         0 100% /snap/core18/2284
/dev/loop3         63488    63488         0 100% /snap/core20/1328
/dev/loop4         63488    63488         0 100% /snap/core20/1361
/dev/loop5        224256   224256         0 100% /snap/gnome-3-34-1804/72
/dev/loop6        224256   224256         0 100% /snap/gnome-3-34-1804/77
/dev/loop7        253952   253952         0 100% /snap/gnome-3-38-2004/87
/dev/loop8        254848   254848         0 100% /snap/gnome-3-38-2004/99
/dev/loop9         66688    66688         0 100% /snap/gtk-common-themes/1515
/dev/loop10        66816    66816         0 100% /snap/gtk-common-themes/1519
/dev/loop11        52224    52224         0 100% /snap/snap-store/547
/dev/loop12        44672    44672         0 100% /snap/snapd/14978
/dev/loop13        55552    55552         0 100% /snap/snap-store/558
/dev/sda1         523248        4    523244   1% /boot/efi
tmpfs             193024       24    193000   1% /run/user/1000
/dev/sr0           59770    59770         0 100% /media/zainaliwaheed/VBox_GAs_6.1.321
```

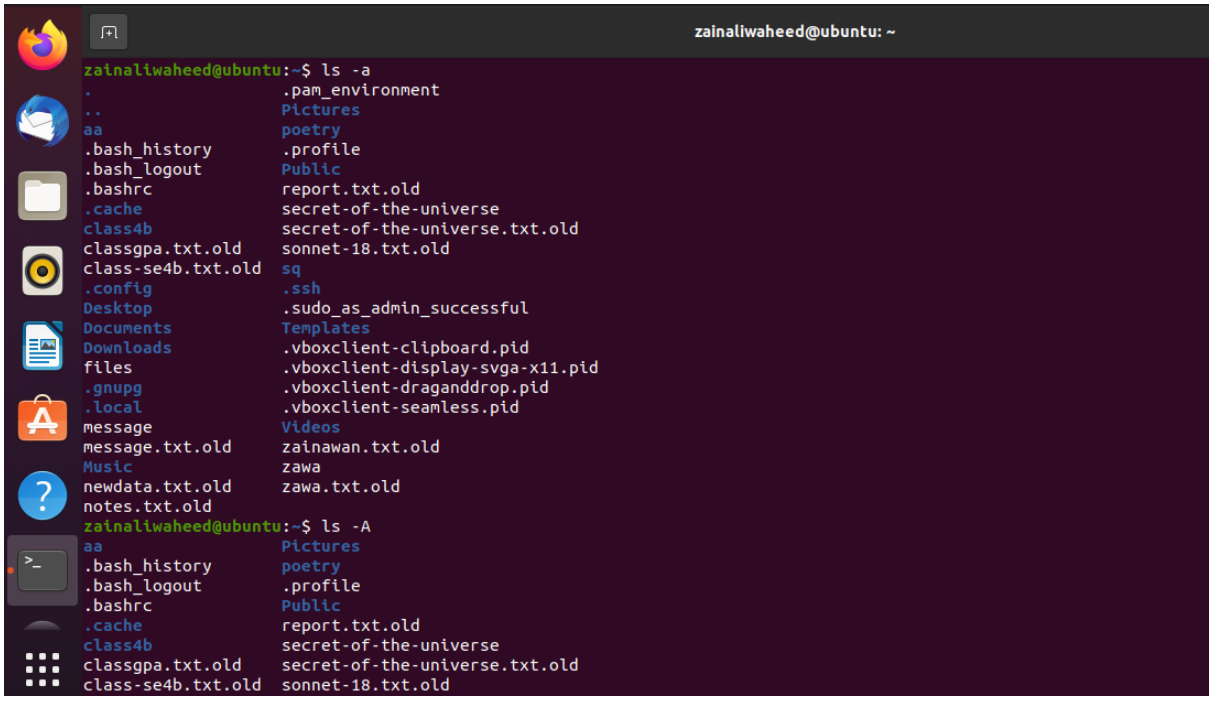
b.Check the man page for df, and use it to find an option to the command which will display the free space in a more human-friendly form. Try both the single-letter and long-style options.

```
zainaliwaheed@ubuntu:~$ df -a
Filesystem     1K-blocks     Used Available Use% Mounted on
sysfs                  0        0         0    - /sys
proc                   0        0         0    - /proc
udev              931656        0    931656   0% /dev
devpts                 0        0         0    - /dev/pts
tmpfs             193028     1332    191696   1% /run
/dev/sda5      102893480 10538432  87085288  11% /
securityfs             0        0         0    - /sys/kernel/security
tmpfs             965124        0    965124   0% /dev/shm
tmpfs               5120        4      5116   1% /run/lock
tmpfs             965124        0    965124   0% /sys/fs/cgroup
cgroup2                0        0         0    - /sys/fs/cgroup/unified
cgroup                 0        0         0    - /sys/fs/cgroup/systemd
pstore                 0        0         0    - /sys/fs/pstore
none                   0        0         0    - /sys/fs/bpf
cgroup                 0        0         0    - /sys/fs/cgroup/misc
cgroup                 0        0         0    - /sys/fs/cgroup/devices
cgroup                 0        0         0    - /sys/fs/cgroup/blkio
cgroup                 0        0         0    - /sys/fs/cgroup/cpu,cpuacct
cgroup                 0        0         0    - /sys/fs/cgroup/perf_event
cgroup                 0        0         0    - /sys/fs/cgroup/memory
cgroup                 0        0         0    - /sys/fs/cgroup/freezer
cgroup                 0        0         0    - /sys/fs/cgroup/rdma
cgroup                 0        0         0    - /sys/fs/cgroup/hugetlb
```

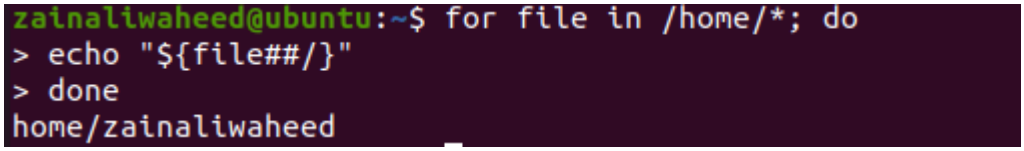
c. Run the shell, bash, and see what happens. Remember that you were already running it to start with. Try leaving the shell you have started with the exit command

Q2 :

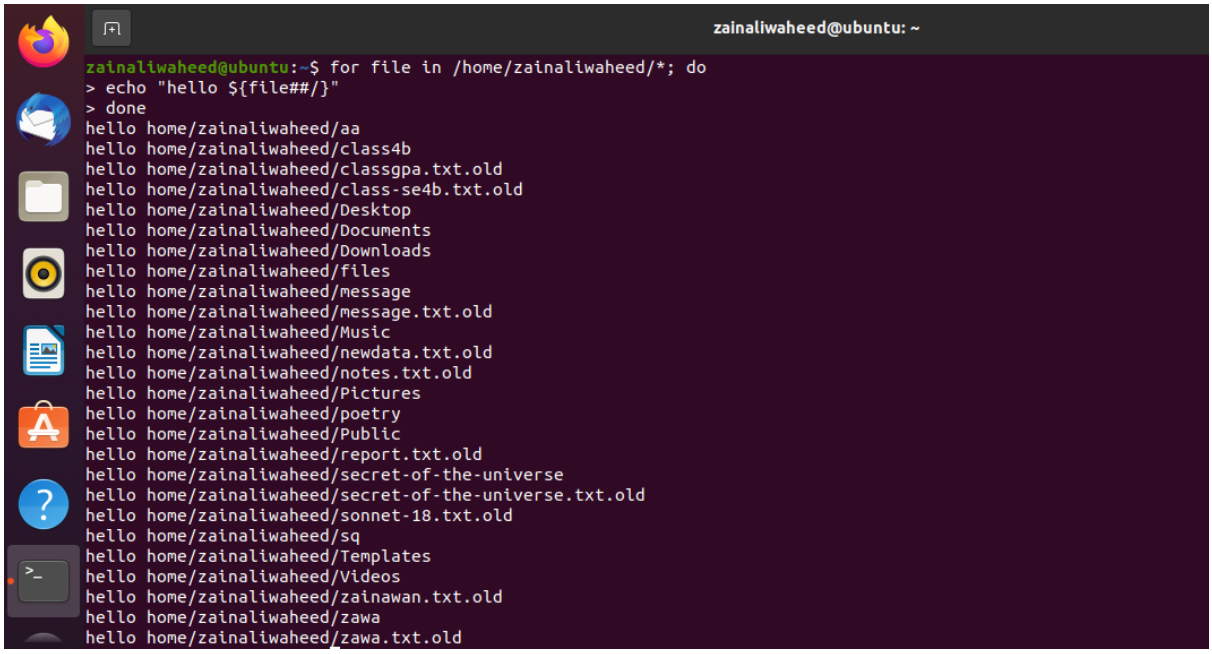
a. Try ls with the -a and -A options. What is the difference between them?



b. Write a for loop which goes through all the files in a directory and prints out their names with echo. If you write the whole thing on one line, then it will be easy to repeat it using the command line history.



c. **Change the loop so that it goes through the names of the people in the room (which needn't be the names of files) and print greetings to them.**

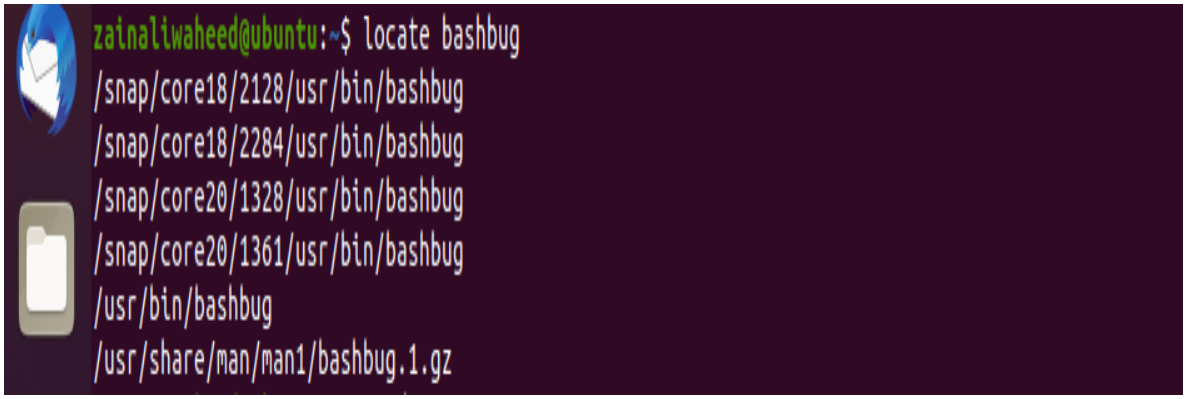


d. **Of course, a simpler way to print a list of filenames is echo *. Why might this be useful, when we usually use the ls command?**

Q3 :

a.Use the find command to list all the files and directories under your home directory. Try the -type d and -type f criteria to show just files and just directories.

b. Use 'locate' to find files whose name contains the string 'bashbug'. Try the same search with find, looking over all files on the system. You'll need to use the * wildcard at the end of the pattern to match files with extensions.



c. Find out what the find criterion -iname does.