

Practice Assignment 1 – Part-II

Capture the screen shots of the results for the following questions. Save each screen shot as the question number. Save all the screen shots in a word file and upload the file into Moodle.

Total Points : 100

0. Install the software named mc (midnight). Capture the screenshot of mc after it starts.

```
trantuanthinh@trantuanthinh-virtual-machine:~$ sudo apt-get install mc
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libssh2-1 mc mc-data
Suggested packages:
  arj catdvi | texlive-binaries dbview djvulibre-bin epub-utils genisoimage gv imagenagick libaspell-dev links | w3m | lynx odt2txt python python-boto python-tzunar wintools
The following NEW packages will be installed:
  libssh2-1 mc mc-data
0 upgraded, 3 newly installed, 0 to remove and 93 not upgraded.
Need to get 2.084 kB of archives.
After this operation, 8.209 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://vn.archive.ubuntu.com/ubuntu jammy/universe amd64 libssh2-1 amd64 1.10.0-3 [109 kB]
Get:2 http://vn.archive.ubuntu.com/ubuntu jammy/universe amd64 mc-data all 3:4.8.27-1 [1.427 kB]
Get:3 http://vn.archive.ubuntu.com/ubuntu jammy/universe amd64 mc amd64 3:4.8.27-1 [547 kB]
Fetched 2.084 kB in 0s (5.441 kB/s)
Selecting previously unselected package libssh2-1:amd64.
(Reading database ... 184609 files and directories currently installed.)
Preparing to unpack .../libssh2-1_1.10.0-3_amd64.deb ...
Unpacking libssh2-1:amd64 (1.10.0-3) ...
Selecting previously unselected package mc-data.
Preparing to unpack .../mc-data_3%3a4.8.27-1_all.deb ...
Unpacking mc-data (3:4.8.27-1) ...
Selecting previously unselected package mc.
Preparing to unpack .../mc_3%3a4.8.27-1_amd64.deb ...
Unpacking mc (3:4.8.27-1) ...
Setting up mc-data (3:4.8.27-1) ...
Setting up libssh2-1:amd64 (1.10.0-3) ...
Setting up mc (3:4.8.27-1) ...
update-alternatives: using /usr/bin/mcview to provide /usr/bin/view (view) in auto mode
Processing triggers for libc-bin (2.35-0ubuntu3.6) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
trantuanthinh@trantuanthinh-virtual-machine:~$
```

1. Display the current user 's name.
2. Display the Operating System Information.
3. Display the default version of the shell.
4. Display the path of the Shell.
5. Display the user id and corresponding name.
6. Display the available disk space.
7. Display currently running all processes with both user and root privilege.

```

trantuanthinh@trantuanthinh-virtual-machine:~$ whoami
trantuanthinh
trantuanthinh@trantuanthinh-virtual-machine:~$ uname -a
Linux trantuanthinh-virtual-machine 6.5.0-27-generic #28~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri
Mar 15 10:51:06 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
trantuanthinh@trantuanthinh-virtual-machine:~$ echo $SHELL
/bin/bash
trantuanthinh@trantuanthinh-virtual-machine:~$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/
in:/snap/bin
trantuanthinh@trantuanthinh-virtual-machine:~$ id
uid=1000(trantuanthinh) gid=1000(trantuanthinh) groups=1000(trantuanthinh),4(adm),24(cdrom),27(
udo),30(dip),46(plugdev),122(lpadmin),135(lxd),136(sambashare)
trantuanthinh@trantuanthinh-virtual-machine:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs            388M  1,9M  386M   1% /run
/dev/sda3        39G   13G   25G  35% /
tmpfs            1,9G   0  1,9G   0% /dev/shm
tmpfs            5,0M  4,0K  5,0M   1% /run/lock
/dev/sda2        512M  6,1M  506M   2% /boot/efi
tmpfs            388M  140K  387M   1% /run/user/1000
/dev/sr1         4,7G  4,7G   0 100% /media/trantuanthinh/Ubuntu 22.04.4 LTS amd64
/dev/sr0         152M  152M   0 100% /media/trantuanthinh/CDROM
trantuanthinh@trantuanthinh-virtual-machine:~$ ps -aux
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.4  0.2 101132 11608 ?        Ss   15:36   0:02 /sbin/init auto noprompt spl
root           2  0.0  0.0      0     0 ?        S    15:36   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        I<   15:36   0:00 [rcu_gp]
root           4  0.0  0.0      0     0 ?        I<   15:36   0:00 [rcu_par_gp]
root           5  0.0  0.0      0     0 ?        I<   15:36   0:00 [slub_flushwq]
root           6  0.0  0.0      0     0 ?        I<   15:36   0:00 [netns]
root           7  0.0  0.0      0     0 ?        I    15:36   0:00 [kworker/0:0-rcu_par_gp]
root           9  0.0  0.0      0     0 ?        I    15:36   0:00 [kworker/0:1-cgroup_destroy]
root          11  0.0  0.0      0     0 ?        I<   15:36   0:00 [mm_percpu_wq]
root          12  0.0  0.0      0     0 ?        I    15:36   0:00 [rcu_tasks_kthread]
root          13  0.0  0.0      0     0 ?        I    15:36   0:00 [rcu_tasks_rude_kthread]
root          14  0.0  0.0      0     0 ?        I    15:36   0:00 [rcu_tasks_trace_kthread]
root          15  0.0  0.0      0     0 ?        S    15:36   0:00 [ksoftirqd/0]
root          16  0.0  0.0      0     0 ?        I    15:36   0:00 [rcu_preempt]
root          17  0.0  0.0      0     0 ?        S    15:36   0:00 [migration/0]
root          18  0.0  0.0      0     0 ?        S    15:36   0:00 [idle_inject/0]

```

8. Display how much system resources have been used by the current running processes.

```
top - 15:46:56 up 10 min, 1 user, load average: 0,08, 0,07, 0,07
Tasks: 296 total, 2 running, 294 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1,5 us, 1,0 sy, 0,0 ni, 97,5 id, 0,0 wa, 0,0 hi, 0,0 si, 0,0 st
MiB Mem : 3870,6 total, 1968,1 free, 907,0 used, 995,5 buff/cache
MiB Swap: 3898,0 total, 3898,0 free, 0,0 used. 2689,0 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1208	trantua+	20	0	4431840	261296	129160	S	3,0	6,6	0:22.18	gnome-shell
1937	trantua+	20	0	566404	53376	40700	S	1,0	1,3	0:05.20	gnome-terminal-
623	root	20	0	255184	9088	7808	S	0,7	0,2	0:02.67	vmtoolsd
2398	trantua+	20	0	24856	4480	3584	R	0,7	0,1	0:00.12	top
347	root	-51	0	0	0	0	S	0,3	0,0	0:00.29	irq/16-vmwgfx
1554	trantua+	20	0	154720	40572	29520	S	0,3	1,0	0:02.37	vmtoolsd
2068	root	20	0	0	0	0	I	0,3	0,0	0:00.22	kworker/0:2-events
2288	root	20	0	0	0	0	I	0,3	0,0	0:00.28	kworker/u256:0-events_u+
1	root	20	0	101132	11608	8280	S	0,0	0,3	0:02.30	systemd
2	root	20	0	0	0	0	S	0,0	0,0	0:00.02	kthreadd
3	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	rcu_par_gp
5	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	slub_flushwq
6	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	netns
7	root	20	0	0	0	0	I	0,0	0,0	0:00.01	kworker/0:0-rcu_par_gp
9	root	20	0	0	0	0	I	0,0	0,0	0:00.41	kworker/0:1-cgroup_dest+
11	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	mm_percpu_wq
12	root	20	0	0	0	0	I	0,0	0,0	0:00.00	rcu_tasks_kthread
13	root	20	0	0	0	0	I	0,0	0,0	0:00.00	rcu_tasks_rude_kthread
14	root	20	0	0	0	0	I	0,0	0,0	0:00.00	rcu_tasks_trace_kthread
15	root	20	0	0	0	0	S	0,0	0,0	0:00.13	ksoftirqd/0
16	root	20	0	0	0	0	R	0,0	0,0	0:00.40	rcu_preempt
17	root	rt	0	0	0	0	S	0,0	0,0	0:00.00	migration/0
18	root	-51	0	0	0	0	S	0,0	0,0	0:00.00	idle_inject/0
19	root	20	0	0	0	0	S	0,0	0,0	0:00.00	cpuhp/0
20	root	20	0	0	0	0	S	0,0	0,0	0:00.00	cpuhp/1
21	root	-51	0	0	0	0	S	0,0	0,0	0:00.00	idle_inject/1
22	root	rt	0	0	0	0	S	0,0	0,0	0:00.61	migration/1
23	root	20	0	0	0	0	S	0,0	0,0	0:00.11	ksoftirqd/1
26	root	20	0	0	0	0	S	0,0	0,0	0:00.00	kdevtmpfs
27	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	inet_frag_wq
29	root	20	0	0	0	0	S	0,0	0,0	0:00.00	kauditd
31	root	20	0	0	0	0	S	0,0	0,0	0:00.00	khungtaskd

- Display the current date only
- Display the current time only

```
trantuathinh@trantuathinh-virtual-machine:~$ date
Thứ năm, 18 Tháng 4 năm 2024 15:49:48 +07
trantuathinh@trantuathinh-virtual-machine:~$ date +"%d-%m-%Y"
18-04-2024
trantuathinh@trantuathinh-virtual-machine:~$ date +"%Y-%m-%d"
2024-04-18
trantuathinh@trantuathinh-virtual-machine:~$ date +"%T"
15:50:06
trantuathinh@trantuathinh-virtual-machine:~$
```

- Ensure that you are in your home directory.
- Create a new directory called “final” in your home directory.
- View the permissions of the newly created directory, “final”.

```
trantuathinh@trantuathinh-virtual-machine:~$ ls -ld final
drwxrwxr-x 2 trantuathinh trantuathinh 4096 Thg 4 18 15:50 final
trantuathinh@trantuathinh-virtual-machine:~$
```

- Create a new blank file named 'display.sh' in the “final” directory
- Create a copy of “display.sh” called “report.sh.”

```

trantuanthinh@trantuanthinh-virtual-machine:~$ touch ~/final/display.sh
trantuanthinh@trantuanthinh-virtual-machine:~$ cd final
trantuanthinh@trantuanthinh-virtual-machine:~/final$ ls
display.sh  report.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$ cp display.sh report.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$ ls
display.sh  report.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$

```

16. Delete the file 'display.sh'.

```

trantuanthinh@trantuanthinh-virtual-machine:~$ touch ~/final/display.sh
trantuanthinh@trantuanthinh-virtual-machine:~$ cd final
trantuanthinh@trantuanthinh-virtual-machine:~/final$ ls
display.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$ cp display.sh report.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$ ls
display.sh  report.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$ rm display.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$ ls
report.sh
trantuanthinh@trantuanthinh-virtual-machine:~/final$

```

17. List the files in “/etc” directory in the ascending order of their access time.

18. Find out all text files in /etc directory.

```

trantuanthinh@trantuanthinh-virtual-machine:~$ ls -lt /ect
ls: cannot access '/ect': No such file or directory
trantuanthinh@trantuanthinh-virtual-machine:~$ find /etc -type f -name "*.txt"
find: '/etc/cups/ssl': Permission denied
/etc/brltty/Input/lt/all.txt
/etc/brltty/Input/vr/all.txt
/etc/brltty/Input/tn/all.txt
/etc/brltty/Input/vs/all.txt
/etc/brltty/Input/tt/all.txt
/etc/brltty/Input/eu/all.txt
/etc/brltty/Input/mn/all.txt
/etc/brltty/Input/bl/18.txt
/etc/brltty/Input/bl/40_m20_m40.txt
/etc/brltty/Input/ec/all.txt
/etc/brltty/Input/ec/spanish.txt
/etc/brltty/Input/mb/all.txt
/etc/brltty/Input/bd/all.txt
/etc/brltty/Input/vd/all.txt
/etc/brltty/Input/no/all.txt
/etc/brltty/Input/ba/all.txt
/etc/brltty/Input/lb/all.txt
/etc/X11/rgb.txt
find: '/etc/polkit-1/localauthority': Permission denied
find: '/etc/ssl/private': Permission denied

```

19. Copy the file /var/log/bootstrap.log to your current directory.

```

trantuanthinh@trantuanthinh-virtual-machine:~$ ls -lt /ect
ls: cannot access '/ect': No such file or directory
trantuanthinh@trantuanthinh-virtual-machine:~$ cp /var/log/bootstrap.log .
trantuanthinh@trantuanthinh-virtual-machine:~$ ls
bootstrap.log  Desktop  Documents  final  linux-4.17.2.tar.xz  mylist.txt  Public  Templates
CSE302        docs_for_wc_program.txt  Downloads  LabInstruction.txt  Music  Pictures  snap  Videos
trantuanthinh@trantuanthinh-virtual-machine:~$

```

20. Show the system's host name.

21. Show the system's IP address only.

```
trantuanthinh@trantuanthinh-virtual-machine:~$ hostname
trantuanthinh-virtual-machine
trantuanthinh@trantuanthinh-virtual-machine:~$ hostname -I
192.168.126.132
trantuanthinh@trantuanthinh-virtual-machine:~$
trantuanthinh@trantuanthinh-virtual-machine:~$
```

22. Test if a host is reachable.

```
trantuanthinh@trantuanthinh-virtual-machine:~$ ping 192.168.126.1
PING 192.168.126.1 (192.168.126.1) 56(84) bytes of data.
64 bytes from 192.168.126.1: icmp_seq=1 ttl=128 time=1.53 ms
64 bytes from 192.168.126.1: icmp_seq=2 ttl=128 time=1.99 ms
64 bytes from 192.168.126.1: icmp_seq=3 ttl=128 time=0.582 ms
^C
--- 192.168.126.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 0.582/1.367/1.989/0.585 ms
trantuanthinh@trantuanthinh-virtual-machine:~$
```

23. Display the number of lines in the /etc/passwd file.

24. Display the lines that contain the string 'not installed' in /var/log/bootstrap.log.

```
trantuanthinh@trantuanthinh-virtual-machine:~$ wc -l /etc/passwd
48 /etc/passwd
trantuanthinh@trantuanthinh-virtual-machine:~$ grep 'not installed' /var/log/bootstrap.log
Package libc6 is not installed.
Package libdebconfclient0 is not installed.
awk is not installed.
Package awk is not installed.
Package libc6 is not installed.
Package libcrypt1 is not installed.
libbz2-1.0 is not installed.
libc6 is not installed.
liblzma5 is not installed.
libselinux1 is not installed.
libzstd1 is not installed.
zlib1g is not installed.
Package libbz2-1.0 is not installed.
Package libc6 is not installed.
Package liblzma5 is not installed.
Package libselinux1 is not installed.
Package libzstd1 is not installed.
Package zlib1g is not installed.
Package tar is not installed.
Package libgcc-s1 is not installed.
Package libcrypt1 is not installed.
libcrypt1 is not installed.
Package libcrypt1 is not installed.
```