Assignments:12

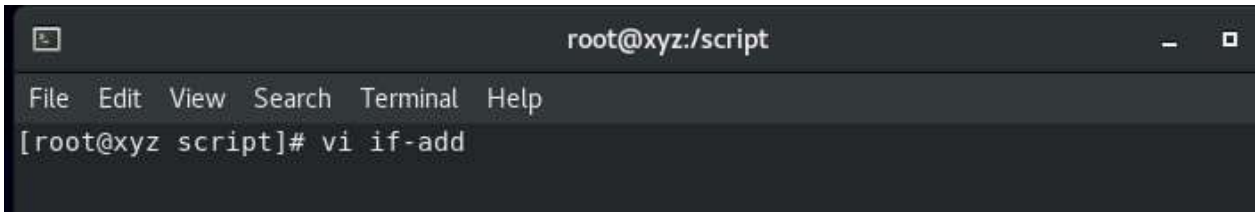
Module:- COSA(SHELL SCRIPT)

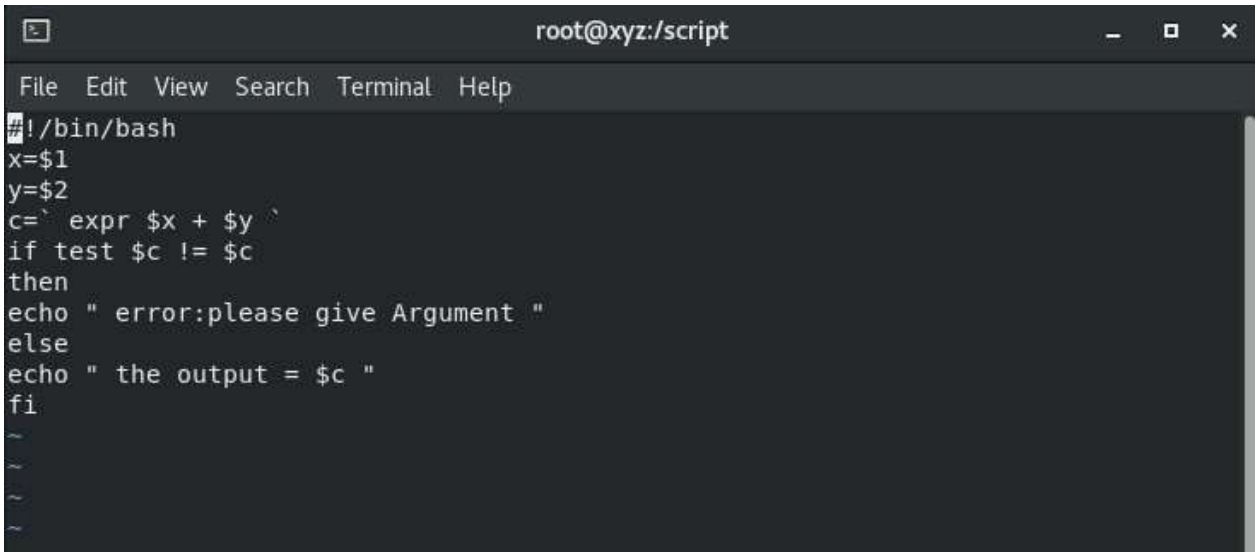
Name:- Prithviraj Nikam

Lab Assignment :-

Q1. How to write shell script that will add two numbers, which are supplied as command line argument, and if these two numbers are not given in command line argument then show error and its usage.

step-1: - create a new file 'if-add'



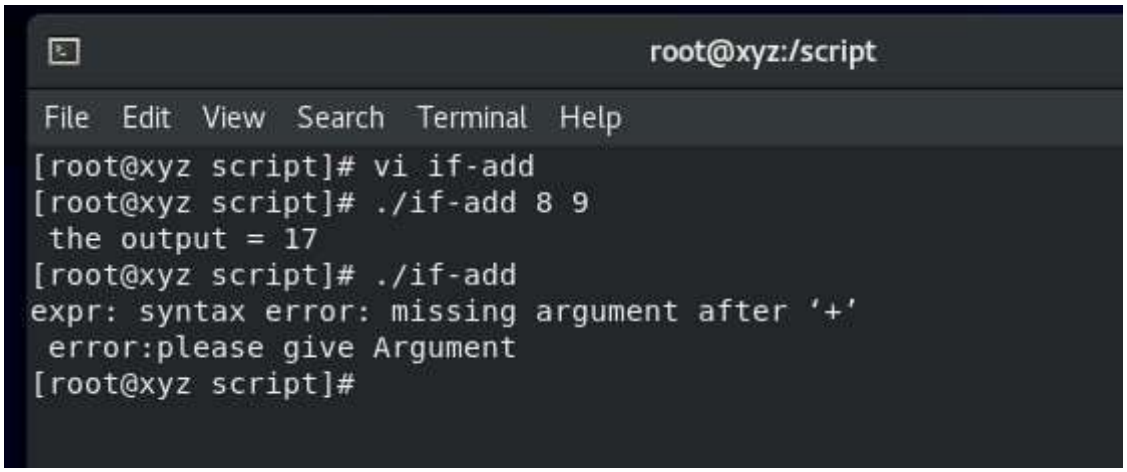


Step-2:- give execute permission to file

Step -3:- show file content

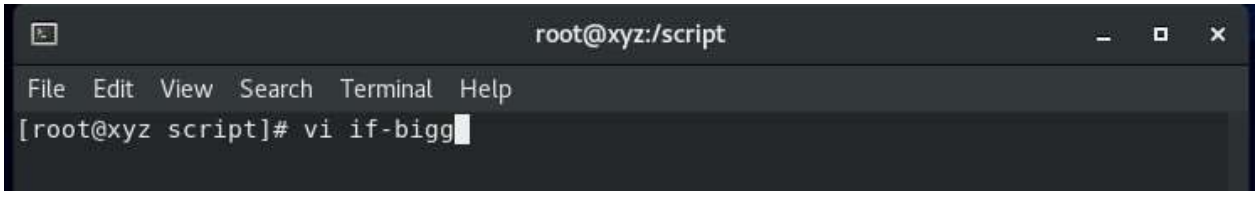
```
[root@xyz script]# cat if-add
#!/bin/bash
x=$1
y=$2
c=` expr $x + $y `
if test $c != $c
then
echo " error:please give Argument "
else
echo " the output = $c "
fi
[root@xyz script]#
```

Step-5:- Find output



Q.2 Write Script to find out biggest number from the given three Numbers. Numbers are supplies as command line argument. Print error if sufficient arguments are not supplied.

Step-1:- Create new file 'if-bigg'



```
root@xyz:/script
File  Edit  View  Search  Terminal  Help
#!/bin/bash
x=$1
y=$2
z=$3
if test $x -gt $y -a $x -gt $z
then
echo " $x "
elif test $y -gt $x -a $y -gt $z
then
echo " $y "
elif test $z -gt $x -a $z -gt $y
then
echo " $z "
elif test $x!=$x -a $y!=$y -a $z!=$z
then
echo " Error:Please Give Argument "
fi
```

Step-2:-give execute permission to file

```
root@xyz:/script
File  Edit  View  Search  Terminal  Help
[root@xyz script]# ls -l if-bigg
-rwxr-xr-x. 1 root root 261 Nov 17 19:52 if-bigg
[root@xyz script]#
```

Step-3:- to show the file content

```
[root@xyz script]# cat if-add
#!/bin/bash
x=$1
y=$2
c=` expr $x + $y `
if test $c != $c
then
echo " error:please give Argument "
else
echo " the output = $c "
fi
[root@xyz script]#
```

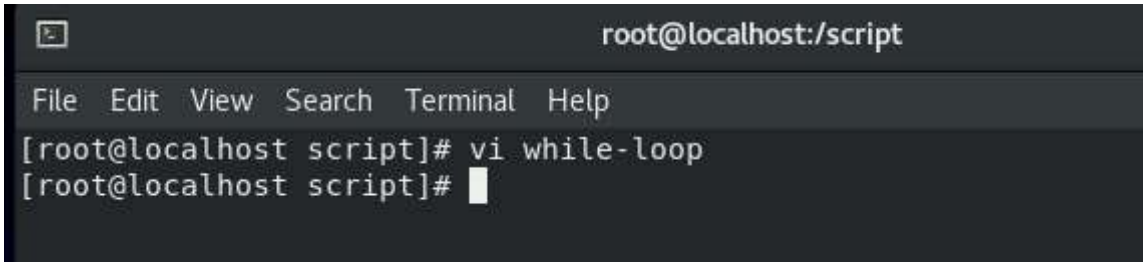
Step-4:- find the output

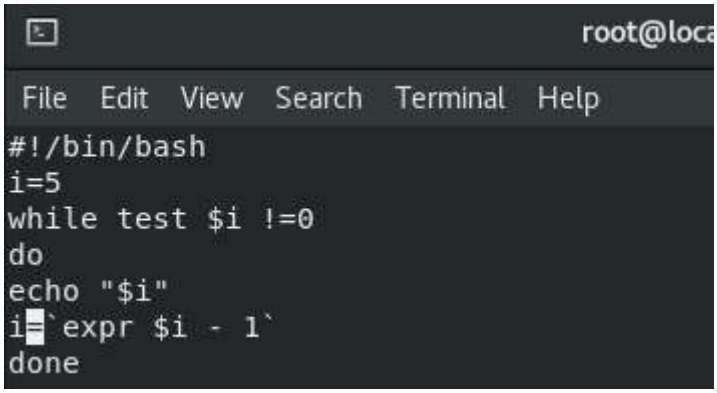
```
[root@xyz script]# ./if-bigg 4 6 9
 9
[root@xyz script]# ./if-bigg

[root@xyz script]#
```

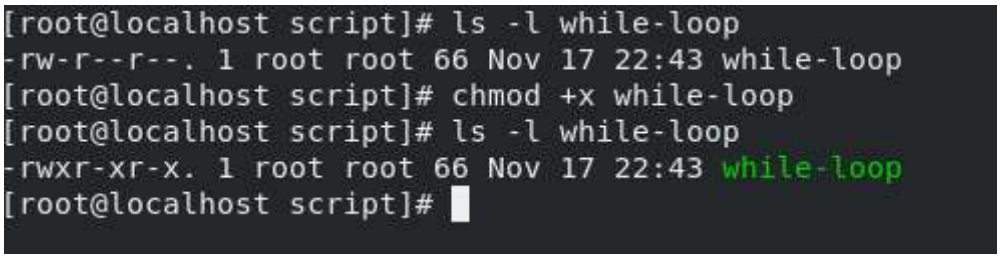
Q.3 Write script to print Numbers as 5,4,3,2,1 using while loop.

Step-1:-Create new file ‘while-loop’





Step-2:- to give file execute permission



Step-3:-to show file content and output

```
File  Edit  View  Search  Terminal  Help
[root@localhost script]# cat while-loop
#!/bin/bash
i=5
while test $i != 0
do
echo " $i "
i=`expr $i - 1`
done
[root@localhost script]# ./while-loop
 5
 4
 3
 2
 1
[root@localhost script]#
```

Q.4 Write Script to see current date, time, username, and current directory.

Step-1:- Create a new file ‘current’ and give execute permission

```
root@localhost:~/script
File  Edit  View  Search  Terminal  Help
[root@localhost script]# vi current
[root@localhost script]# ls -l current
-rw-r--r--. 1 root root 43 Nov 17 22:57 current
[root@localhost script]# chmod +x current
[root@localhost script]# ls -l current
-rwxr-xr-x. 1 root root 43 Nov 17 22:57 current
[root@localhost script]#
```

Step- 2:- to show file content and output

```
[root@localhost script]# cat current
#!/bin/bash
echo " Current date is `date` "
echo " Current time is `time` "
echo " Username is `whoami` "
echo " Current directory `pwd` "

[root@localhost script]# ./current
 Current date is Thu Nov 17 23:02:35 IST 2022

real    0m0.000s
user    0m0.000s
sys     0m0.000s
 Current time is
 Username is root
 Current directory /root/script
[root@localhost script]#
```

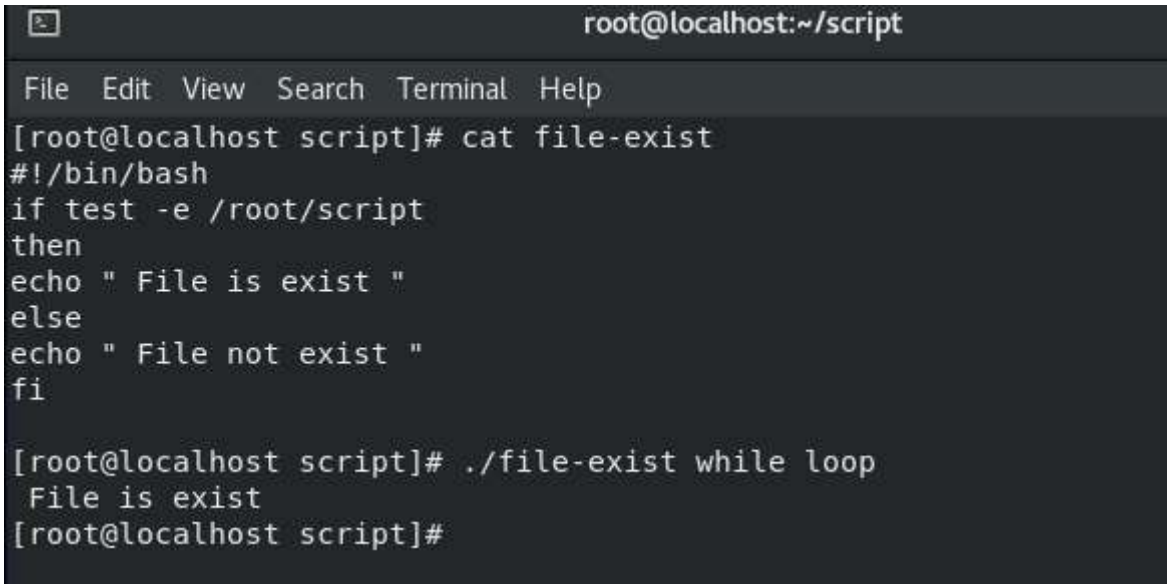
Q.5 Write script to determine whether given file exist or not, file name is supplied as command line argument, also check for sufficient number of command line argument

Step-1:- create new file 'file-exist' and give execute permission

```
root@localhost:~/script
File  Edit  View  Search  Terminal  Help
[root@localhost script]# vi file-exist
[root@localhost script]# ls -l file-exist
-rw-r--r--. 1 root root 104 Nov 17 23:10 file-exist
[root@localhost script]# chmod +x file-exist
[root@localhost script]# ls -l file-exist
-rwxr-xr-x. 1 root root 104 Nov 17 23:10 file-exist
[root@localhost script]#
```

Step -2:- show all exist file in current directory using 'ls' command

Step-3:- to show file content and output



Q.6 Write shell script to show various system configuration like

1) Currently logged user and his logname

2) Your current shell

3) Your home directory

4) Your operating system type

5) Your current path setting

6) Your current working directory

7) Show Currently logged number of users

8) About your os and version ,release number , kernel version

9) Show all available shells

10) Show mouse settings
11) Show computer cpu information like processor type, speed etc
12) Show memory information
13) Show hard disk information like size of hard-disk, cache memory, model etc
14) File system (Mounted)

Step-1:- Create a new file 'sy-conf' and give its execute permission

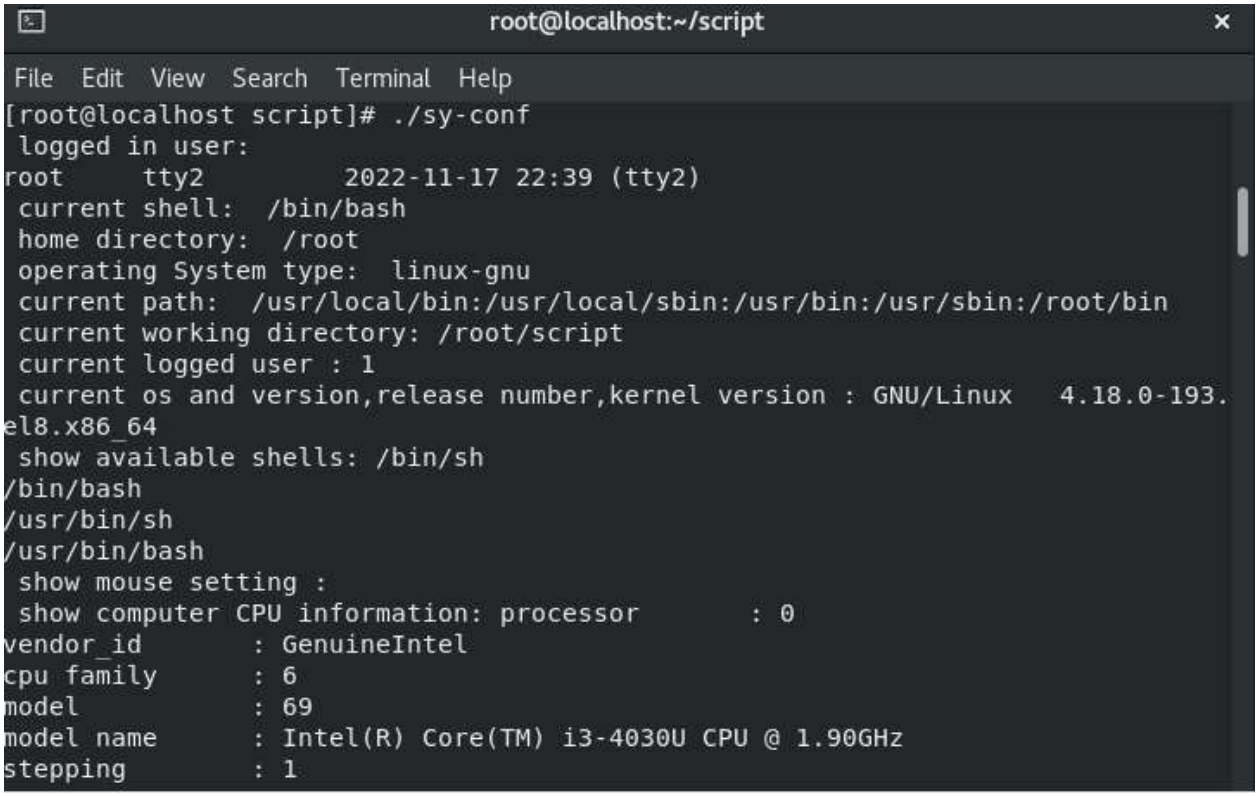
```
File  Edit  View  Search  Terminal  Help
[root@localhost script]# vi sy-conf
[root@localhost script]# ls -l sy-conf
-rw-r--r--. 1 root root 646 Nov 18 00:38 sy-conf
[root@localhost script]# chmod +x sy-conf
[root@localhost script]# ls -l sy-conf
-rwxr-xr-x. 1 root root 646 Nov 18 00:38 sy-conf
[root@localhost script]#
```

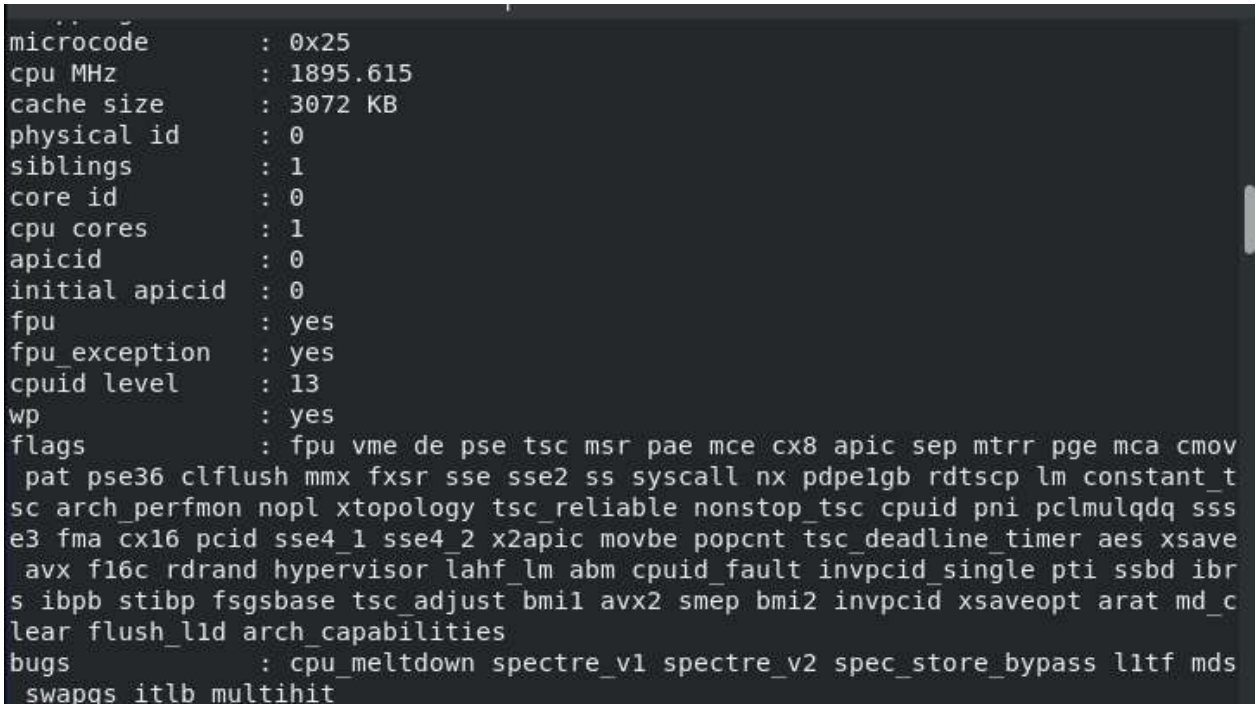
Step-2:- show file content

```
root@localhost:~/script
File  Edit  View  Search  Terminal  Help
[root@localhost script]# cat sy-conf
#!/bin/bash
echo " logged in user: "
who
echo " current shell: " $SHELL
echo " home directory: " $HOME
echo " operating System type: " $OSTYPE
echo " current path: " $PATH
echo " current working directory: `pwd` "
echo " current logged user : `w -h|wc -l` "
echo " current os and version,release number,kernel version : `uname -o`   `unam
e -r` "
echo " show available shells: `chsh -l` "
echo " show mouse setting : "
echo " show computer CPU information: `cat /proc/cpuinfo` "
echo " show memory information : `cat /proc/meminfo` "
echo " show hard disk information : `sudo lshw -class disk` "
echo " show Mounted File system : `cat /etc/mtab` "


[root@localhost script]#
```

Step-3:- find output





```
s ibpb stibp fsgsbase tsc_adjust bmi1 avx2 smep bmi2 invpcid xsaveopt arat md_c
lear flush_l1d arch_capabilities
bugs            : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass l1tf mds
 swapgs itlb_multihit
bogomips        : 3791.23
clflush size    : 64
cache_alignment : 64
address sizes   : 45 bits physical, 48 bits virtual
power management:
 show memory information : MemTotal:        2007040 kB
MemFree:          222720 kB
MemAvailable:     596692 kB
Buffers:            2148 kB
Cached:           496476 kB
SwapCached:            0 kB
Active:          1052544 kB
Inactive:         360236 kB
Active(anon):     916560 kB
Inactive(anon):    23444 kB
Active(file):     135984 kB
Inactive(file):   336792 kB
Unevictable:           0 kB
```

```
Mlocked:               0 kB
SwapTotal:       4194300 kB
SwapFree:        4194300 kB
Dirty:               264 kB
Writeback:             0 kB
AnonPages:        889904 kB
Mapped:           268680 kB
Shmem:             25848 kB
KReclaimable:      65268 kB
Slab:             178360 kB
SReclaimable:      65268 kB
SUnreclaim:       113092 kB
KernelStack:       11336 kB
PageTables:        49656 kB
NFS_Unstable:          0 kB
Bounce:                0 kB
WritebackTmp:          0 kB
CommitLimit:     5197820 kB
Committed_AS:    4624308 kB
VmallocTotal:   34359738367 kB
VmallocUsed:           0 kB
VmallocChunk:          0 kB
```

```
Percpu:            64000 kB
HardwareCorrupted:     0 kB
AnonHugePages:    387072 kB
ShmemHugePages:        0 kB
ShmemPmdMapped:        0 kB
HugePages_Total:       0
HugePages_Free:        0
HugePages_Rsvd:        0
HugePages_Surp:        0
Hugepagesize:       2048 kB
Hugetlb:               0 kB
DirectMap4k:      227200 kB
DirectMap2M:     1869824 kB
DirectMap1G:           0 kB
 show hard disk information :   *-cdrom
       description: DVD-RAM writer
       product: VMware IDE CDR10
       vendor: NECVMWar
       physical id: 0.0.0
       bus info: scsi@1:0.0.0
       logical name: /dev/cdrom
       logical name: /dev/sr0
```

```
       logical name: /dev/cdrom
       logical name: /dev/sr0
       version: 1.00
       capabilities: removable audio cd-r cd-rw dvd dvd-r dvd-ram
       configuration: ansiversion=5 status=open
 show Mounted File system : sysfs /sys sysfs rw,seclabel,nosuid,nodev,noexec,re
latime 0 0
proc /proc proc rw,nosuid,nodev,noexec,relatime 0 0
devtmpfs /dev devtmpfs rw,seclabel,nosuid,size=975256k,nr_inodes=243814,mode=75
5 0 0
securityfs /sys/kernel/security securityfs rw,nosuid,nodev,noexec,relatime 0 0
tmpfs /dev/shm tmpfs rw,seclabel,nosuid,nodev 0 0
devpts /dev/pts devpts rw,seclabel,nosuid,noexec,relatime,gid=5,mode=620,ptmxmo
de=000 0 0
tmpfs /run tmpfs rw,seclabel,nosuid,nodev,mode=755 0 0
tmpfs /sys/fs/cgroup tmpfs ro,seclabel,nosuid,nodev,noexec,mode=755 0 0
cgroup /sys/fs/cgroup/systemd cgroup rw,seclabel,nosuid,nodev,noexec,relatime,x
attr,release_agent=/usr/lib/systemd/systemd-cgroups-agent,name=systemd 0 0
pstore /sys/fs/pstore pstore rw,seclabel,nosuid,nodev,noexec,relatime 0 0
bpf /sys/fs/bpf bpf rw,nosuid,nodev,noexec,relatime,mode=700 0 0
cgroup /sys/fs/cgroup/cpu,cpuacct cgroup rw,seclabel,nosuid,nodev,noexec,relati
me,cpu,cpuacct 0 0
```

```
cgroup /sys/fs/cgroup/blkio cgroup rw,seclabel,nosuid,nodev,noexec,relatime,blk
io 0 0
configfs /sys/kernel/config configfs rw,relatime 0 0
/dev/nvme0n1p2 / xfs rw,seclabel,relatime,attr2,inode64,noquota 0 0
selinuxfs /sys/fs/selinux selinuxfs rw,relatime 0 0
debugfs /sys/kernel/debug debugfs rw,seclabel,relatime 0 0
mqueue /dev/mqueue mqueue rw,seclabel,relatime 0 0
systemd-1 /proc/sys/fs/binfmt_misc autofs rw,relatime,fd=44,pgrp=1,timeout=0,mi
nproto=5,maxproto=5,direct,pipe_ino=22477 0 0
hugetlbfs /dev/hugepages hugetlbfs rw,seclabel,relatime,pagesize=2M 0 0
/dev/nvme0n1p3 /home xfs rw,seclabel,relatime,attr2,inode64,noquota 0 0
/dev/nvme0n1p1 /boot ext4 rw,seclabel,relatime 0 0
sunrpc /var/lib/nfs/rpc_pipefs rpc_pipefs rw,relatime 0 0
tmpfs /run/user/42 tmpfs rw,seclabel,nosuid,nodev,relatime,size=200704k,mode=70
0,uid=42,gid=42 0 0
tracefs /sys/kernel/debug/tracing tracefs rw,seclabel,relatime 0 0
tmpfs /run/user/0 tmpfs rw,seclabel,nosuid,nodev,relatime,size=200704k,mode=700
 0 0
gvfsd-fuse /run/user/0/gvfs fuse.gvfsd-fuse rw,nosuid,nodev,relatime,user_id=0,
group_id=0 0 0
fusectl /sys/fs/fuse/connections fusectl rw,relatime 0 0
[root@localhost script]#
```