

ASSIGNMENT - 2

1. Add a 10GB disk to the CentOS.

Ans. Verify That Disk Is Added Using **fdisk -l**

```
Applications Places Terminal
root@localhost:~# fdisk -l

Disk /dev/sda: 32.2 GB, 32212254720 bytes, 62914560 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x0008367b

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1 *         2048        1026047        512000   83   Linux
/dev/sda2           1026048       41986047       20480000   83   Linux
/dev/sda3          41986048       50178047        4096000   82   Linux swap / Solaris

Disk /dev/sdb: 21.5 GB, 21474836480 bytes, 41943040 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x2e86ee15

   Device Boot      Start         End      Blocks   Id  System
/dev/sdb1           2048       20973567       10485760   83   Linux

Disk /dev/sdc: 11.8 GB, 11811160064 bytes, 23068672 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

[root@localhost ~]#
```

Have Taken 11Gb To Avoid Any Kind Of Storage Issue.

2. Create 2 Partitions 4GB and 6GB of Space respectively.

Ans. Creating 2 Partition

```
Applications Places Terminal
root@localhost

File Edit View Search Terminal Help
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

[root@localhost ~]# clr
bash: clr: command not found...
[root@localhost ~]# clear
[root@localhost ~]# fdisk /dev/sdc
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

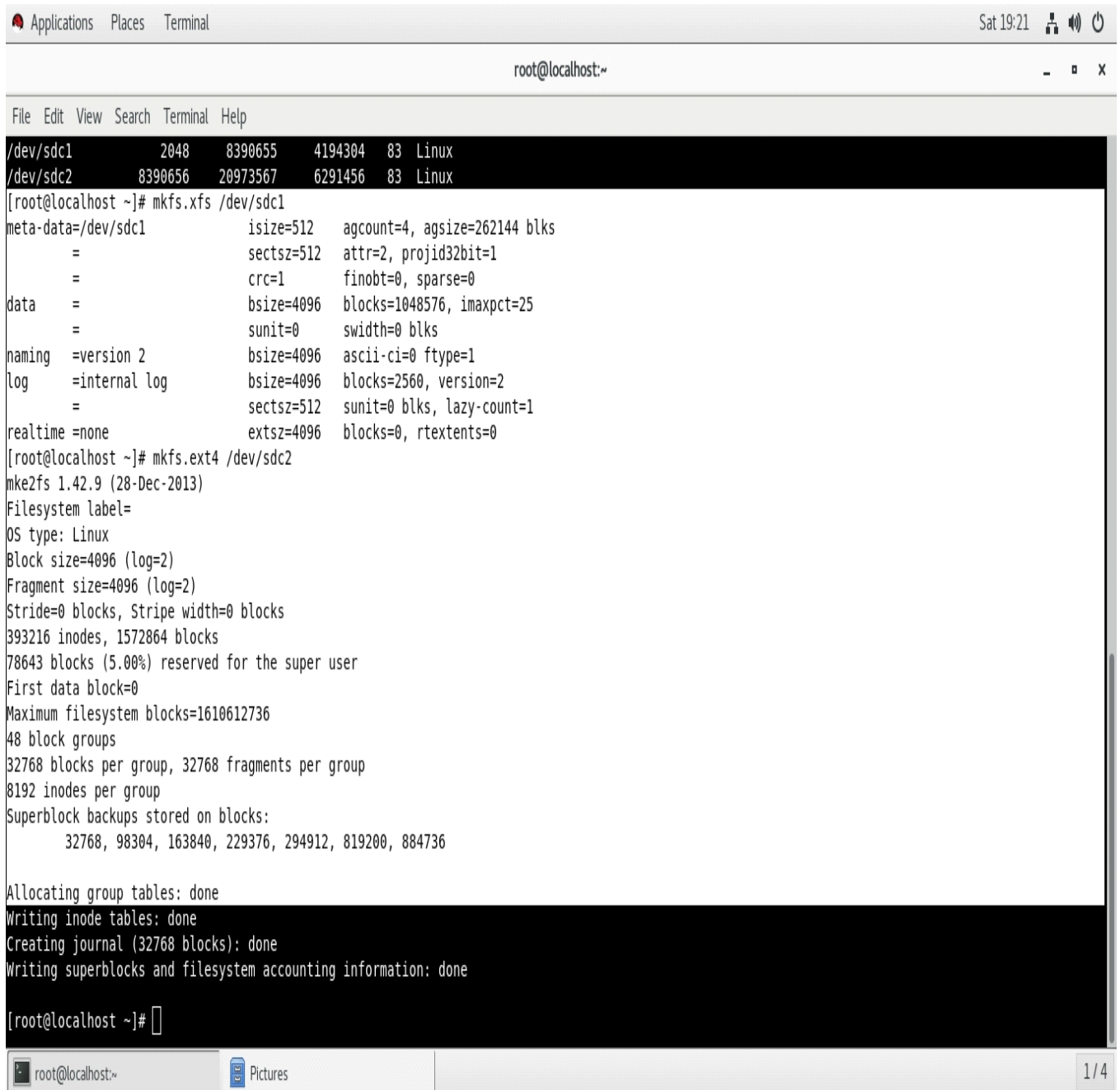
Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0x23ea359c.

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-23068671, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-23068671, default 23068671): +4G
Partition 1 of type Linux and of size 4 GiB is set

Command (m for help): n
Partition type:
   p   primary (1 primary, 0 extended, 3 free)
   e   extended
Select (default p): p
Partition number (2-4, default 2): 2
First sector (8390656-23068671, default 8390656):
Using default value 8390656
Last sector, +sectors or +size{K,M,G} (8390656-23068671, default 23068671): +6G
Partition 2 of type Linux and of size 6 GiB is set
```

3. Format 4GB with xfs and 6GB with ext4 file system.

Ans.

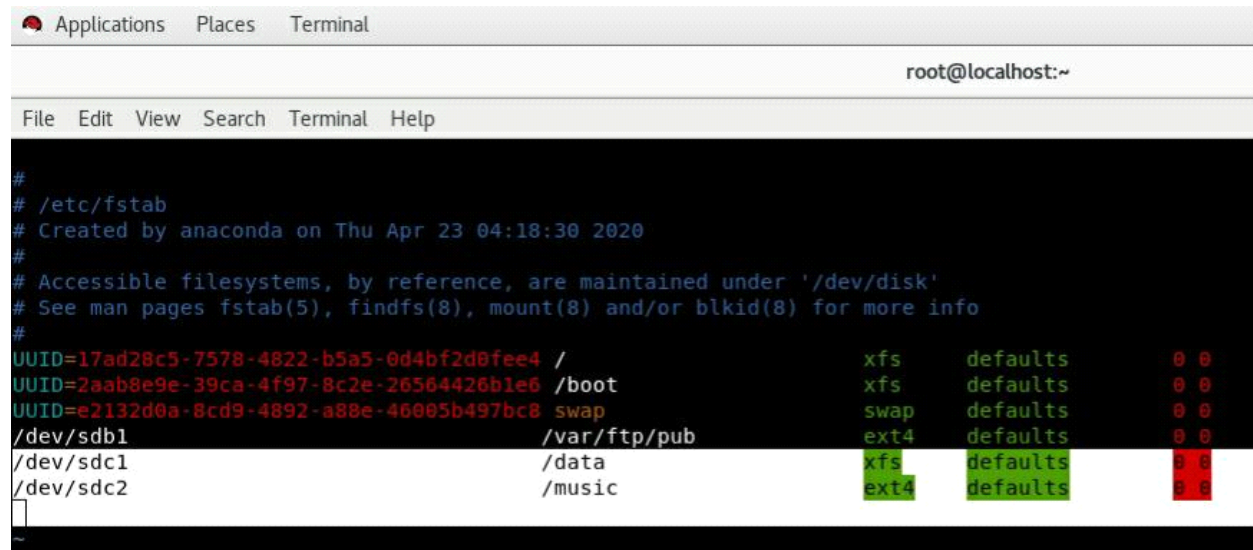


```
root@localhost:~  
File Edit View Search Terminal Help  
/dev/sdc1      2048    8390655    4194304    83  Linux  
/dev/sdc2      8390656    20973567    6291456    83  Linux  
[root@localhost ~]# mkfs.xfs /dev/sdc1  
meta-data=/dev/sdc1            isize=512    agcount=4, agsize=262144 blks  
        =                       sectsz=512   attr=2, projid32bit=1  
        =                       crc=1        finobt=0, sparse=0  
data      =                       bsize=4096   blocks=1048576, imaxpct=25  
        =                       sunit=0      swidth=0 blks  
naming    =version 2           bsize=4096   ascii-ci=0 ftype=1  
log       =internal log        bsize=4096   blocks=2560, version=2  
        =                       sectsz=512   sunit=0 blks, lazy-count=1  
realtime  =none                extsz=4096   blocks=0, rtextents=0  
[root@localhost ~]# mkfs.ext4 /dev/sdc2  
mke2fs 1.42.9 (28-Dec-2013)  
Filesystem label=  
OS type: Linux  
Block size=4096 (log=2)  
Fragment size=4096 (log=2)  
Stride=0 blocks, Stripe width=0 blocks  
393216 inodes, 1572864 blocks  
78643 blocks (5.00%) reserved for the super user  
First data block=0  
Maximum filesystem blocks=1610612736  
48 block groups  
32768 blocks per group, 32768 fragments per group  
8192 inodes per group  
Superblock backups stored on blocks:  
        32768, 98304, 163840, 229376, 294912, 819200, 884736  
  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (32768 blocks): done  
Writing superblocks and filesystem accounting information: done  
  
[root@localhost ~]#
```

Formating And Creating File System Using **mkfs** Command

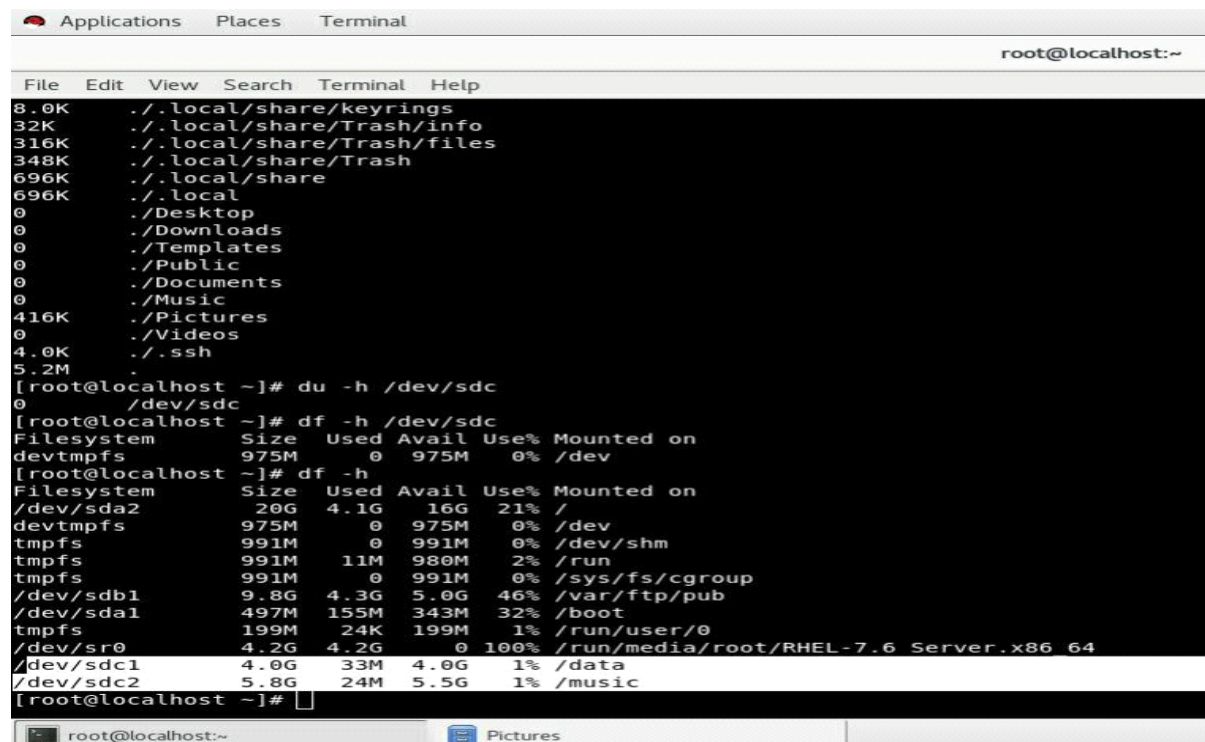
4. Mount 4GB and 6GB in /data and /music directory respectively.

Ans. Creating Mount Point Using **fstab** File



```
#  
# /etc/fstab  
# Created by anaconda on Thu Apr 23 04:18:30 2020  
#  
# Accessible filesystems, by reference, are maintained under '/dev/disk'  
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info  
#  
UUID=17ad28c5-7578-4822-b5a5-0d4bf2d8fee4 / xfs defaults 0 0  
UUID=2aab8e9e-39ca-4f97-8c2e-26564426b1e6 /boot xfs defaults 0 0  
UUID=e2132d0a-8cd9-4892-a88e-46005b497bc8 swap swap defaults 0 0  
/dev/sdb1 /var/ftp/pub ext4 defaults 0 0  
/dev/sdc1 /data xfs defaults 0 0  
/dev/sdc2 /music ext4 defaults 0 0
```

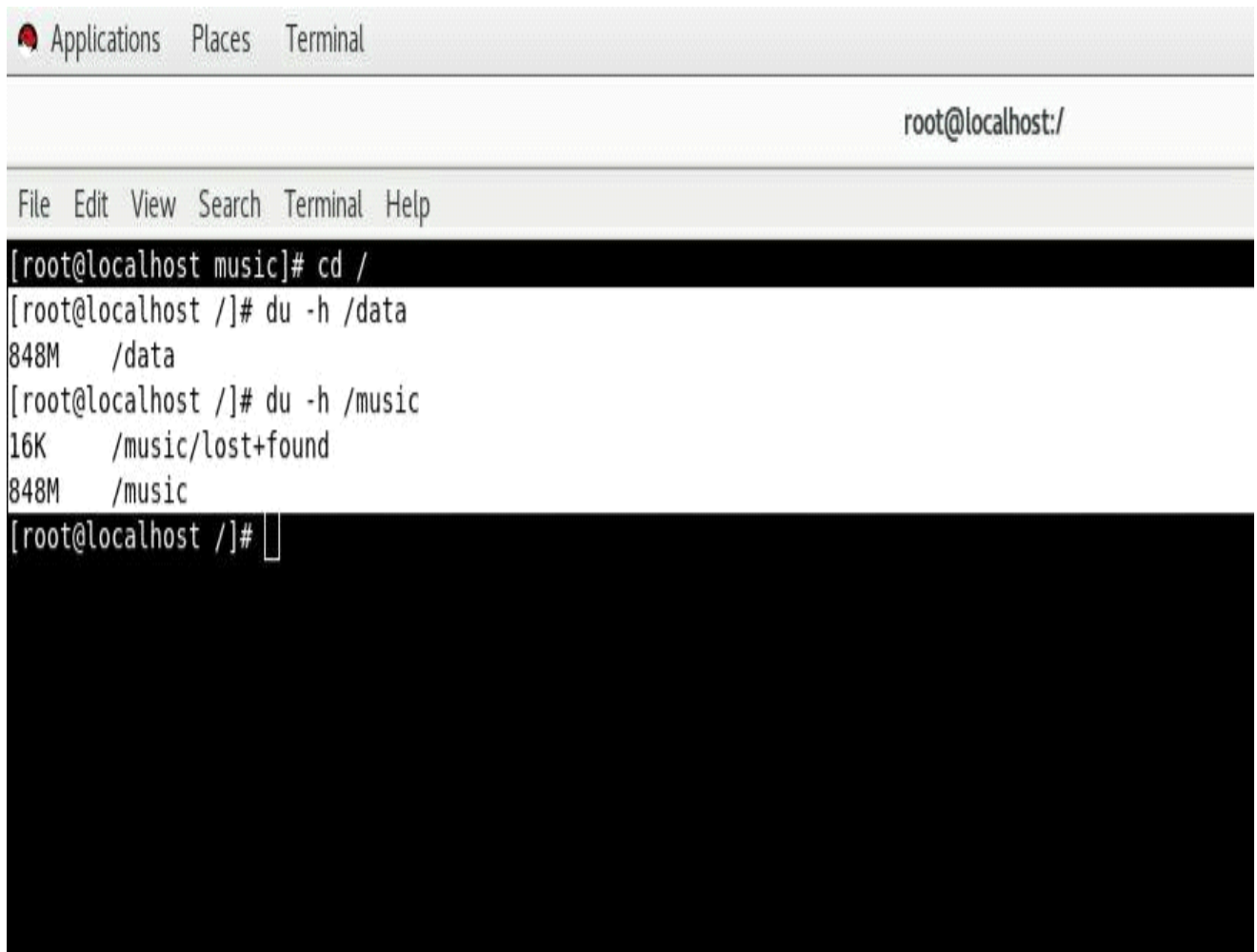
Verifying Mount Point Is Created



```
[root@localhost ~]# du -h /dev/sdc  
0  
/dev/sdc  
[root@localhost ~]# df -h /dev/sdc  
Filesystem      Size  Used Avail Use% Mounted on  
devtmpfs        975M  0 975M  0% /dev  
[root@localhost ~]# df -h  
Filesystem      Size  Used Avail Use% Mounted on  
/dev/sda2       20G  4.1G  16G  21% /  
devtmpfs        975M  0 975M  0% /dev  
tmpfs           991M  0 991M  0% /dev/shm  
tmpfs           991M  11M 980M  2% /run  
tmpfs           991M  0 991M  0% /sys/fs/cgroup  
/dev/sdb1       9.8G  4.3G  5.0G  46% /var/ftp/pub  
/dev/sda1       497M  155M  343M  32% /boot  
tmpfs           199M  24K  199M  1% /run/user/0  
/dev/sr0        4.2G  4.2G  0 100% /run/media/root/RHEL-7.6 Server.x86_64  
/dev/sdc1       4.0G  33M  4.0G  1% /data  
/dev/sdc2       5.8G  24M  5.5G  1% /music  
[root@localhost ~]#
```

5. Create one file of 1GB in each of the mount point created above.

Ans. Creating 1Gb File Using **seq > 1000000** Command

A screenshot of a Linux terminal window. The window has a title bar with 'Applications', 'Places', and 'Terminal'. The terminal shows the user is root at localhost. The user navigates to the /music directory and then back to /. They run 'du -h /data' which shows 848M for /data. Then they run 'du -h /music' which shows 16K for /music/lost+found and 848M for /music. The prompt returns to root@localhost /#.

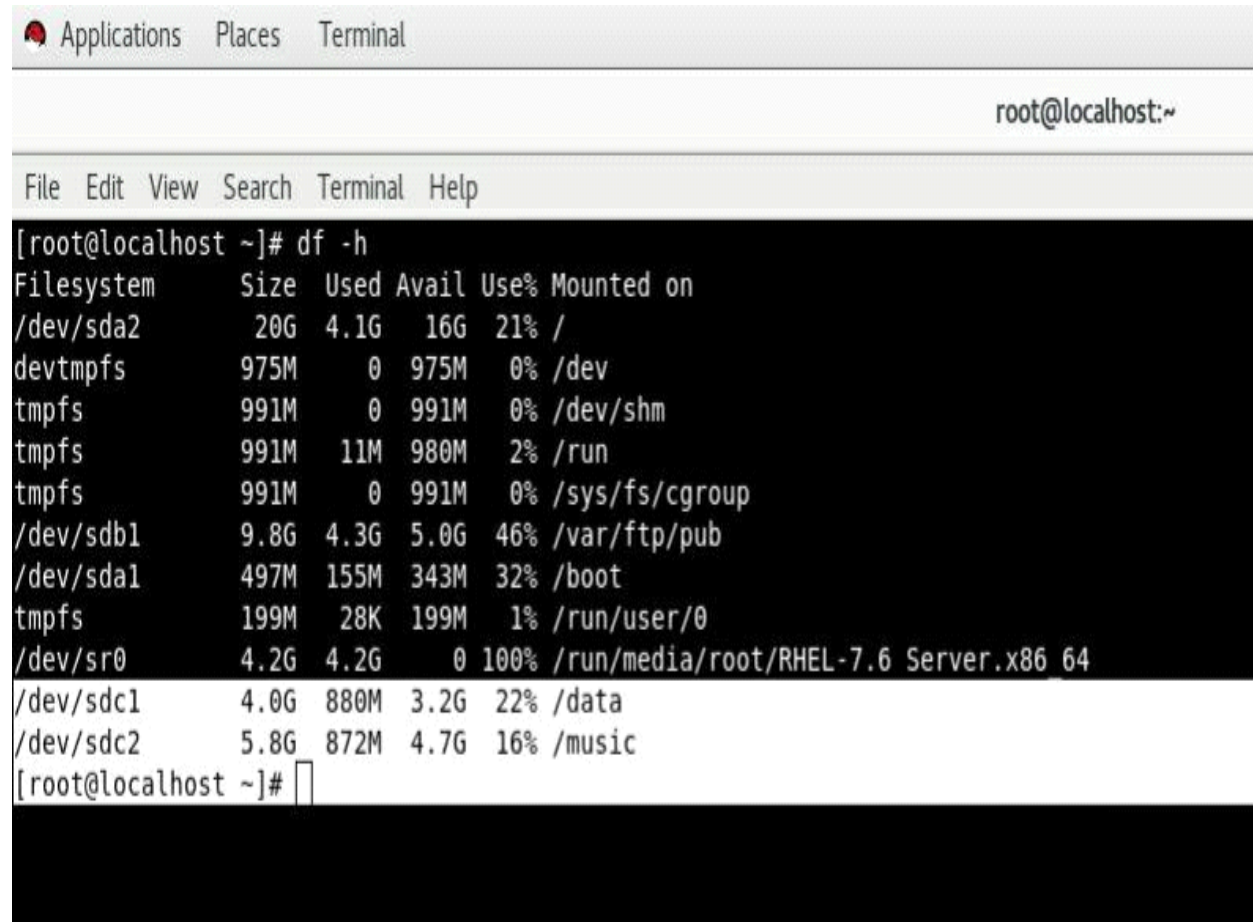
```
Applications Places Terminal
root@localhost:/

File Edit View Search Terminal Help
[root@localhost music]# cd /
[root@localhost /]# du -h /data
848M    /data
[root@localhost /]# du -h /music
16K     /music/lost+found
848M    /music
[root@localhost /]#
```

#Here The File Created Is Having 848 Mb Which Is Closest To 1Gb

6. Verify the disk Consumption and disk space free in the mounted partitions.

Ans. Verify Disk Usage Using **df -h** Command



The screenshot shows a terminal window with the following elements:

- Top bar: Applications, Places, Terminal
- Right side: root@localhost:~
- Menu bar: File, Edit, View, Search, Terminal, Help
- Terminal content:

```
[root@localhost ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda2        20G   4.1G   16G   21% /
devtmpfs         975M    0   975M    0% /dev
tmpfs            991M    0   991M    0% /dev/shm
tmpfs            991M   11M   980M    2% /run
tmpfs            991M    0   991M    0% /sys/fs/cgroup
/dev/sdb1        9.8G   4.3G   5.0G   46% /var/ftp/pub
/dev/sda1        497M  155M  343M   32% /boot
tmpfs            199M   28K   199M    1% /run/user/0
/dev/sr0         4.2G   4.2G    0  100% /run/media/root/RHEL-7.6 Server.x86_64
/dev/sdc1        4.0G   880M   3.2G   22% /data
/dev/sdc2        5.8G   872M   4.7G   16% /music
[root@localhost ~]#
```