

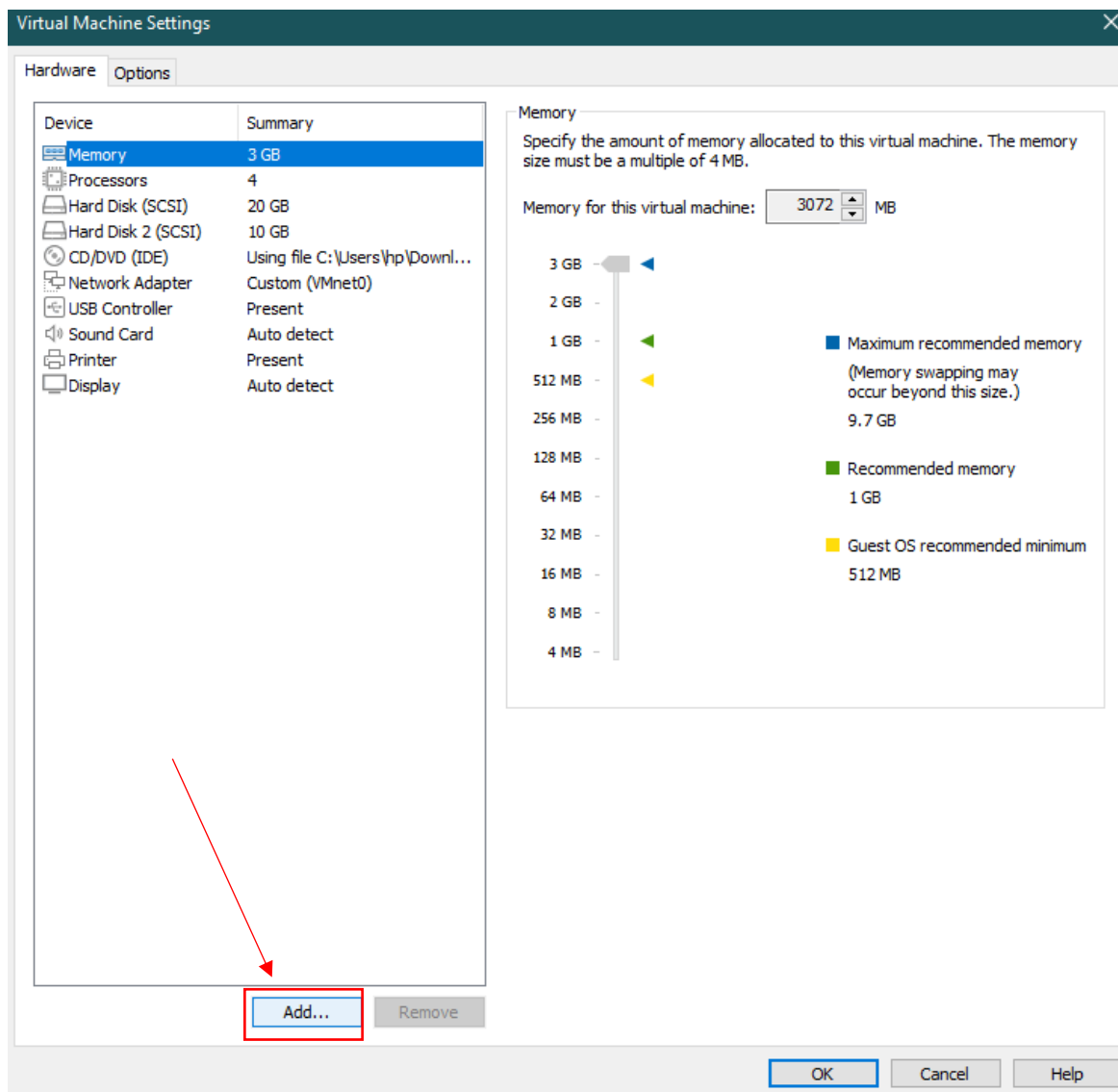
LETSUPGRADE LINUX ADMINISTRATION

ASSIGNMENT – 2

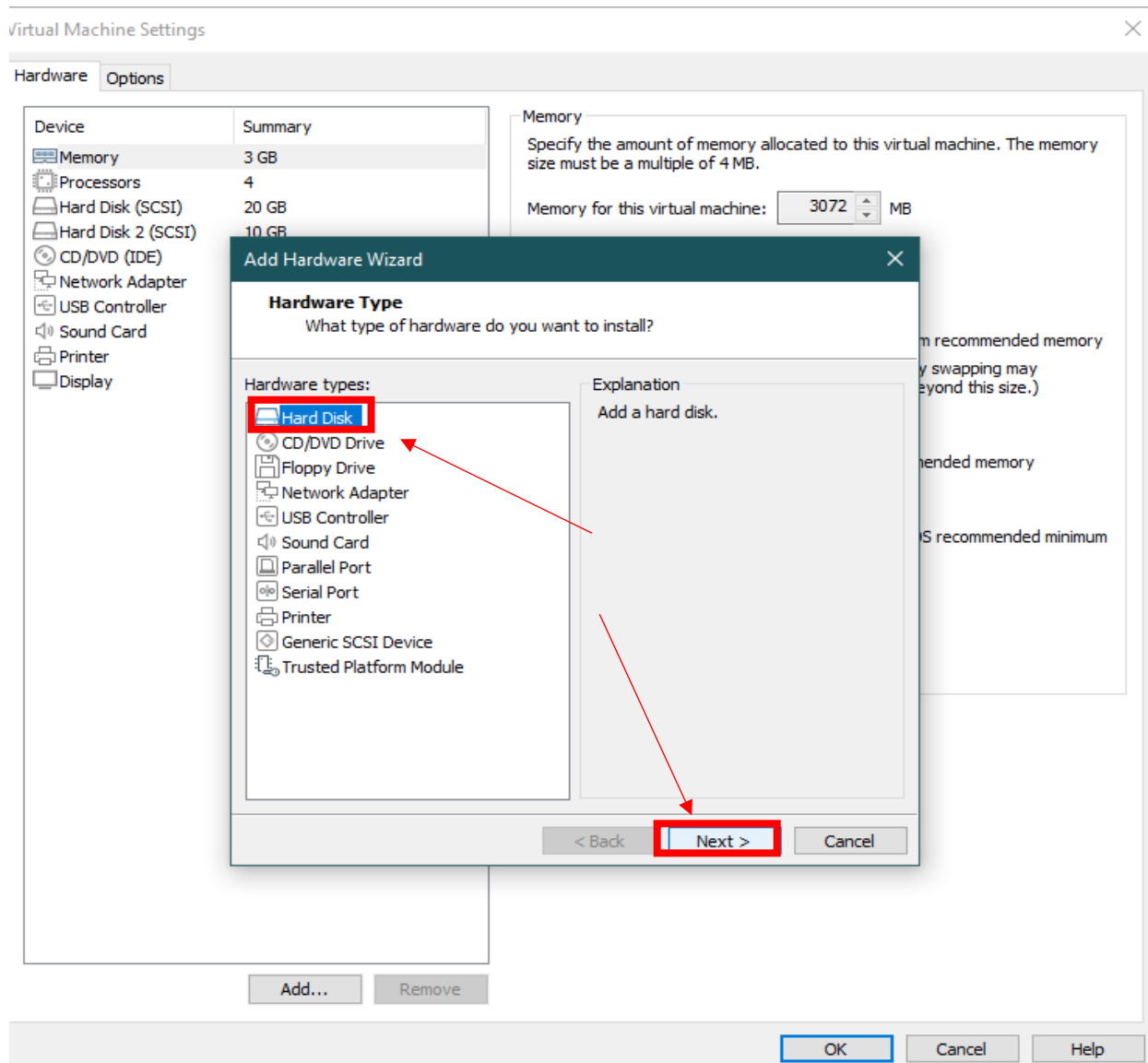
Q.1> Add a 10GB disk to the CentOS.

Ans. To add 10GB Disk to CentOS, Follow below steps:

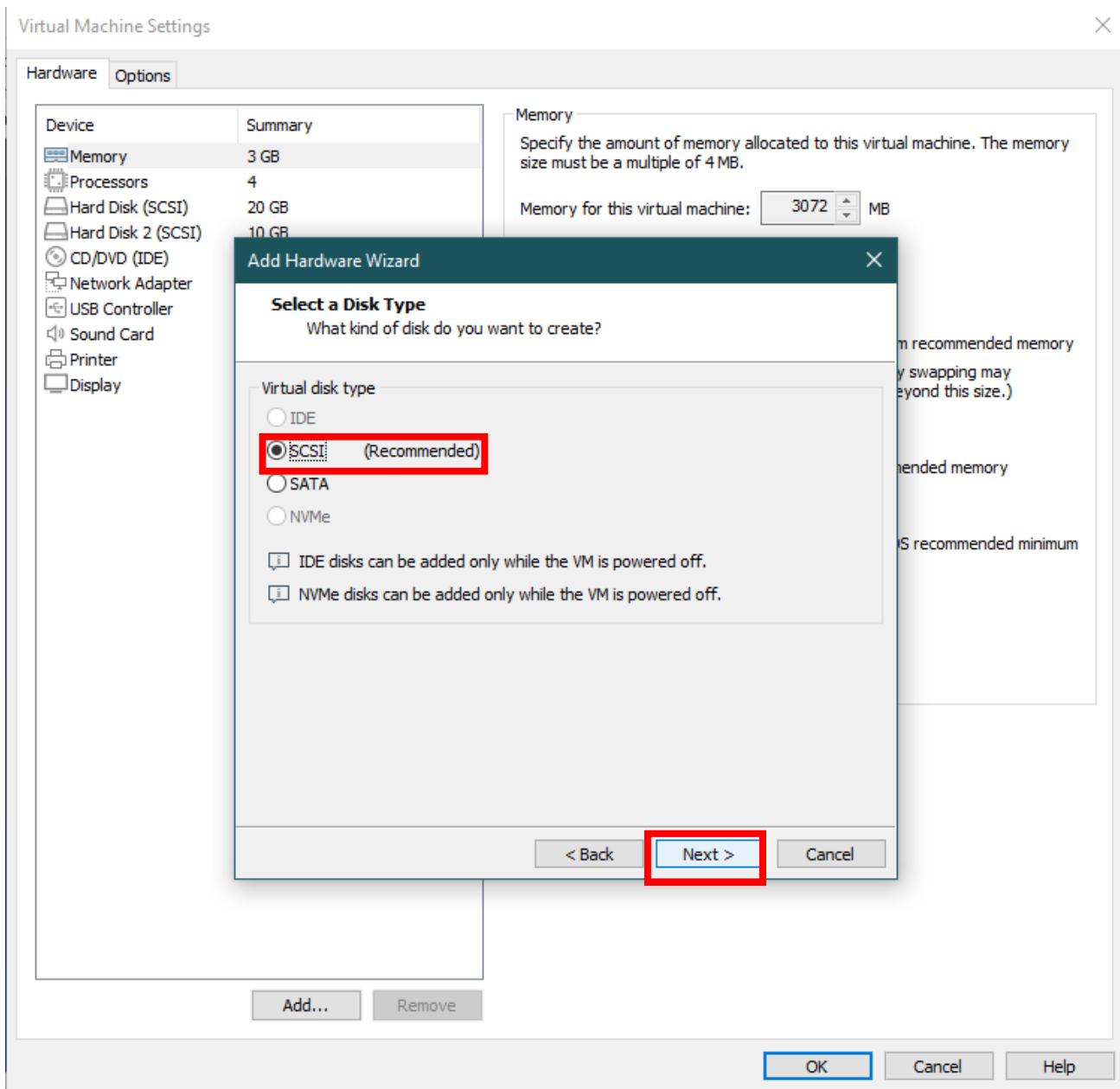
1. Go to virtual Machine settings, and click on **add Button**.



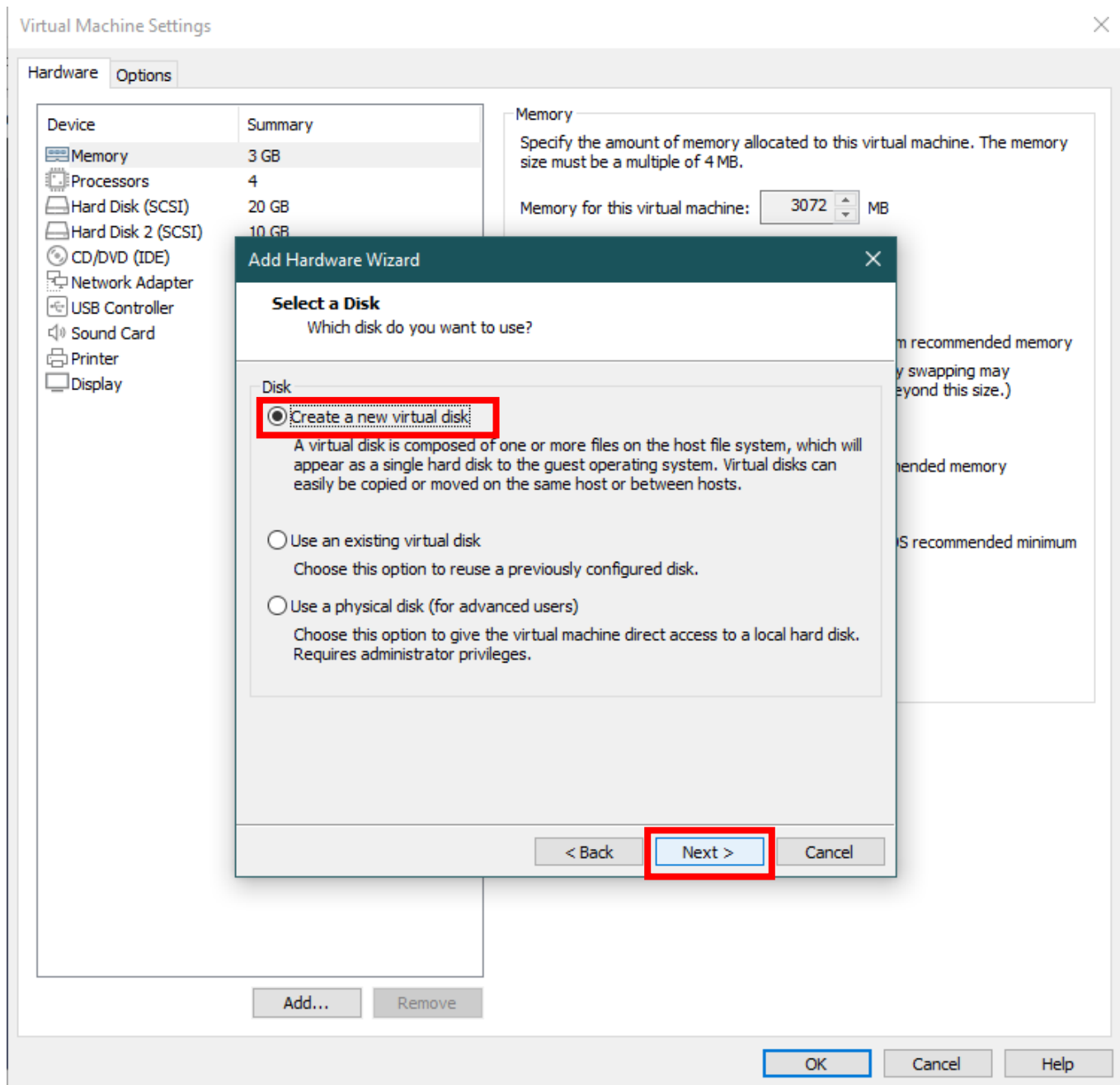
2. Click on **Hard Disk** and **Next**



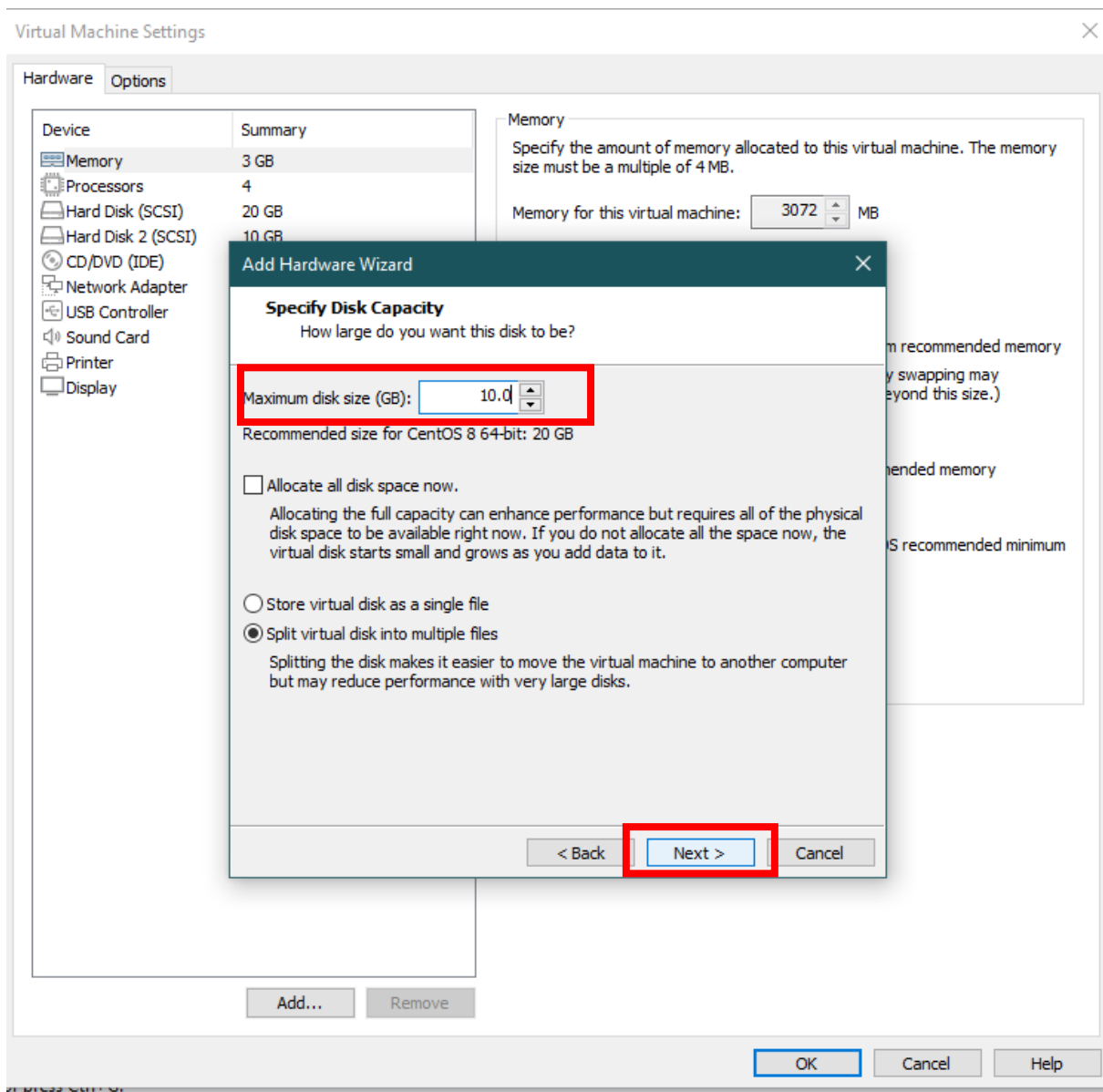
3. Click on **SCSI** and **NEXT**



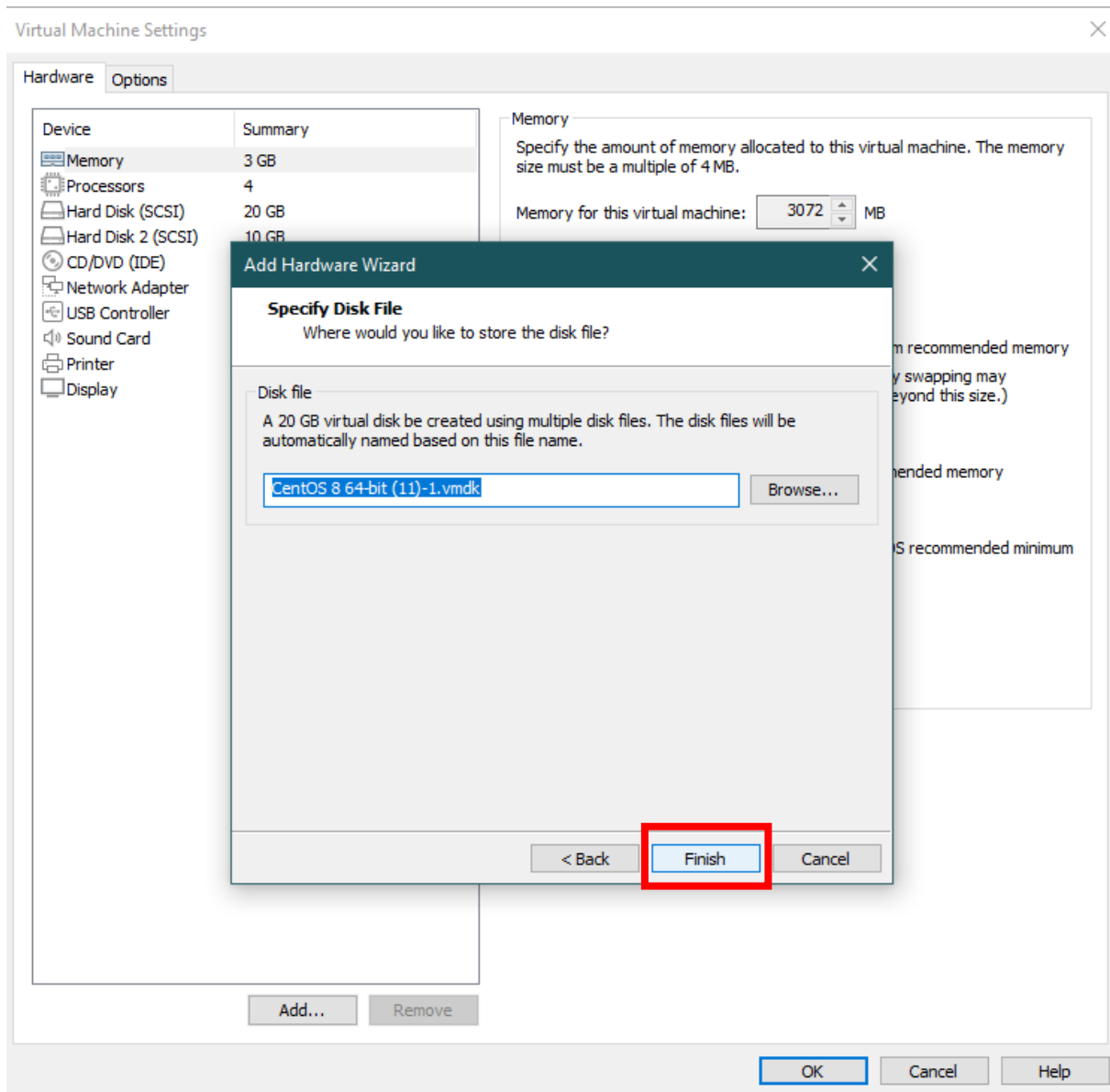
4. Click on create a new **virtual disk** and click **NEXT**



5. Enter Size **10GB** and click **NEXT**

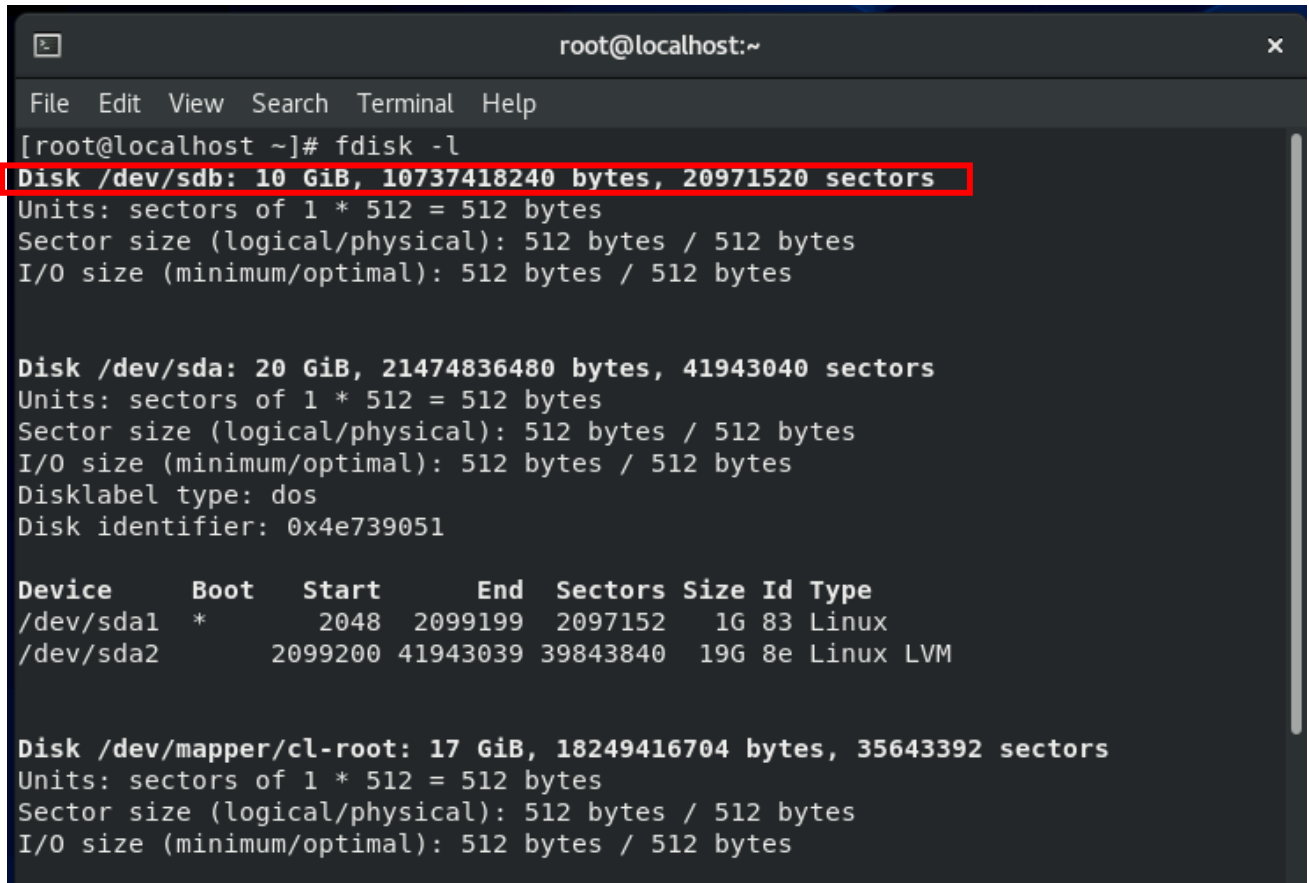


6. Now Click Finish



Now Boot into CentOS (Make sure you Take root access by Typing “sudo su”) and open Terminal, Enter command

- “fdisk -l” to check disk created or not



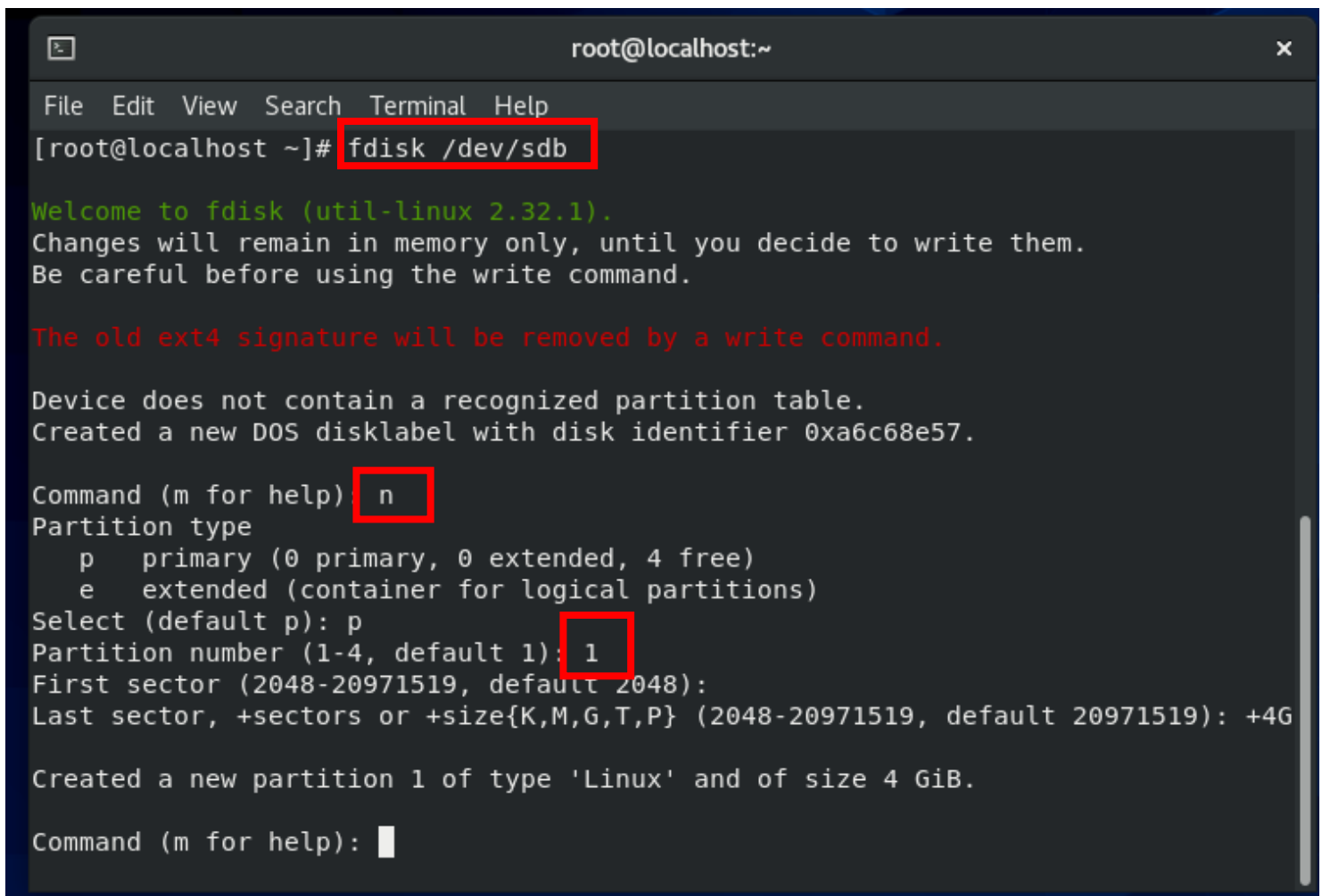
```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# fdisk -l  
Disk /dev/sdb: 10 GiB, 10737418240 bytes, 20971520 sectors  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
  
Disk /dev/sda: 20 GiB, 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  
Disklabel type: dos  
Disk identifier: 0x4e739051  
  
Device      Boot    Start        End    Sectors   Size Id Type  
/dev/sda1   *         2048    2099199    2097152    1G 83 Linux  
/dev/sda2           2099200  41943039  39843840   19G 8e Linux LVM  
  
Disk /dev/mapper/cl-root: 17 GiB, 18249416704 bytes, 35643392 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
```

In Our case Disk is created

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

Ans. To create Two Partitions of 4GB and 6GB follow commands

- fdisk /dev/sdb (in different cases it differ)
- n
- p
- 1
- (In First Sector step you may hit Enter without entering any value)
- +4G



```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# fdisk /dev/sdb  
  
Welcome to fdisk (util-linux 2.32.1).  
Changes will remain in memory only, until you decide to write them.  
Be careful before using the write command.  
  
The old ext4 signature will be removed by a write command.  
  
Device does not contain a recognized partition table.  
Created a new DOS disklabel with disk identifier 0xa6c68e57.  
  
Command (m for help) n  
Partition type  
   p   primary (0 primary, 0 extended, 4 free)  
   e   extended (container for logical partitions)  
Select (default p): p  
Partition number (1-4, default 1): 1  
First sector (2048-20971519, default 2048):  
Last sector, +sectors or +size{K,M,G,T,P} (2048-20971519, default 20971519): +4G  
  
Created a new partition 1 of type 'Linux' and of size 4 GiB.  
Command (m for help):
```


In case of 2nd Partition Type “n” Simply hit Enter on default values

```
root@localhost:~  
File Edit View Search Terminal Help  
Created a new DOS disklabel with disk identifier 0xa837e214.  
  
Command (m for help): n  
Partition type  
   p   primary (0 primary, 0 extended, 4 free)  
   e   extended (container for logical partitions)  
Select (default p): p  
Partition number (1-4, default 1): 1  
First sector (2048-20971519, default 2048):  
Last sector, +sectors or +size{K,M,G,T,P} (2048-20971519, default 20971519): +4G  
  
Created a new partition 1 of type 'Linux' and of size 4 GiB.  
  
Command (m for help): n  
Partition type  
   p   primary (1 primary, 0 extended, 3 free)  
   e   extended (container for logical partitions)  
Select (default p): p  
Partition number (2-4, default 2): 2  
First sector (8390656-20971519, default 8390656):  
Last sector, +sectors or +size{K,M,G,T,P} (8390656-20971519, default 20971519):  
  
Created a new partition 2 of type 'Linux' and of size 6 GiB.  
  
Command (m for help):
```

And type W and Hit enter to save changes

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

Ans.

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

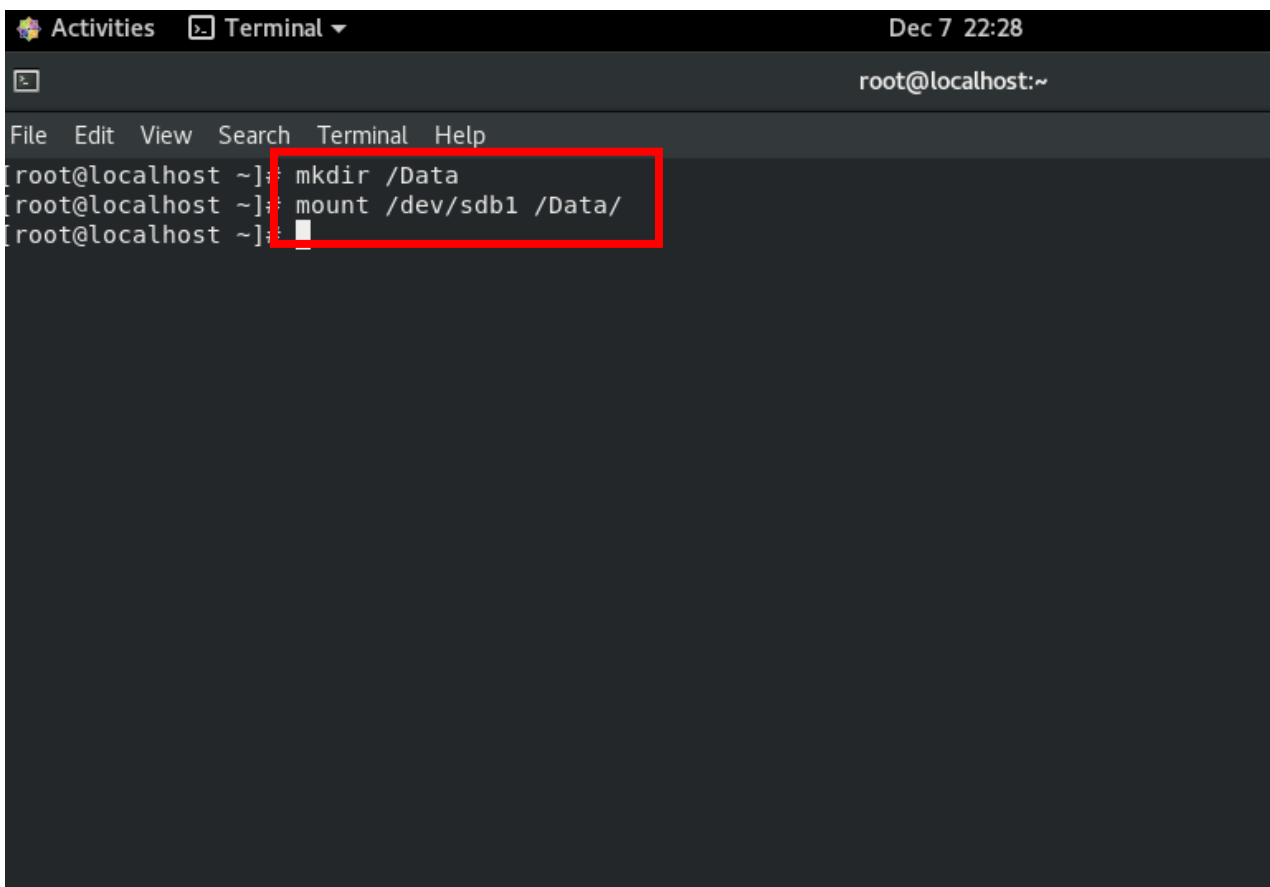
- **mkfs.xfs /dev/sdb1**
- **mkfs.ext4 /dev/sdb2**

```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# mkfs.xfs /dev/sdb1  
meta-data=/dev/sdb1             isize=512    agcount=4, agsize=262144 blks  
                =               sectsz=512    attr=2, projid32bit=1  
                =               crc=1        finobt=1, sparse=1, rmapbt=0  
                =               reflink=1  
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/sdb2  
mke2fs 1.45.4 (23-Sep-2019)  
Creating filesystem with 1572608 4k blocks and 393216 inodes  
Filesystem UUID: 9dc116c3-4f3d-46a6-9abc-8226058efdf2  
Superblock backups stored on blocks:  
        32768, 98304, 163840, 229376, 294912, 819200, 884736  
  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (16384 blocks): done  
Writing superblocks and filesystem accounting information: done  
[root@localhost ~]#
```

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

Ans. Step 1

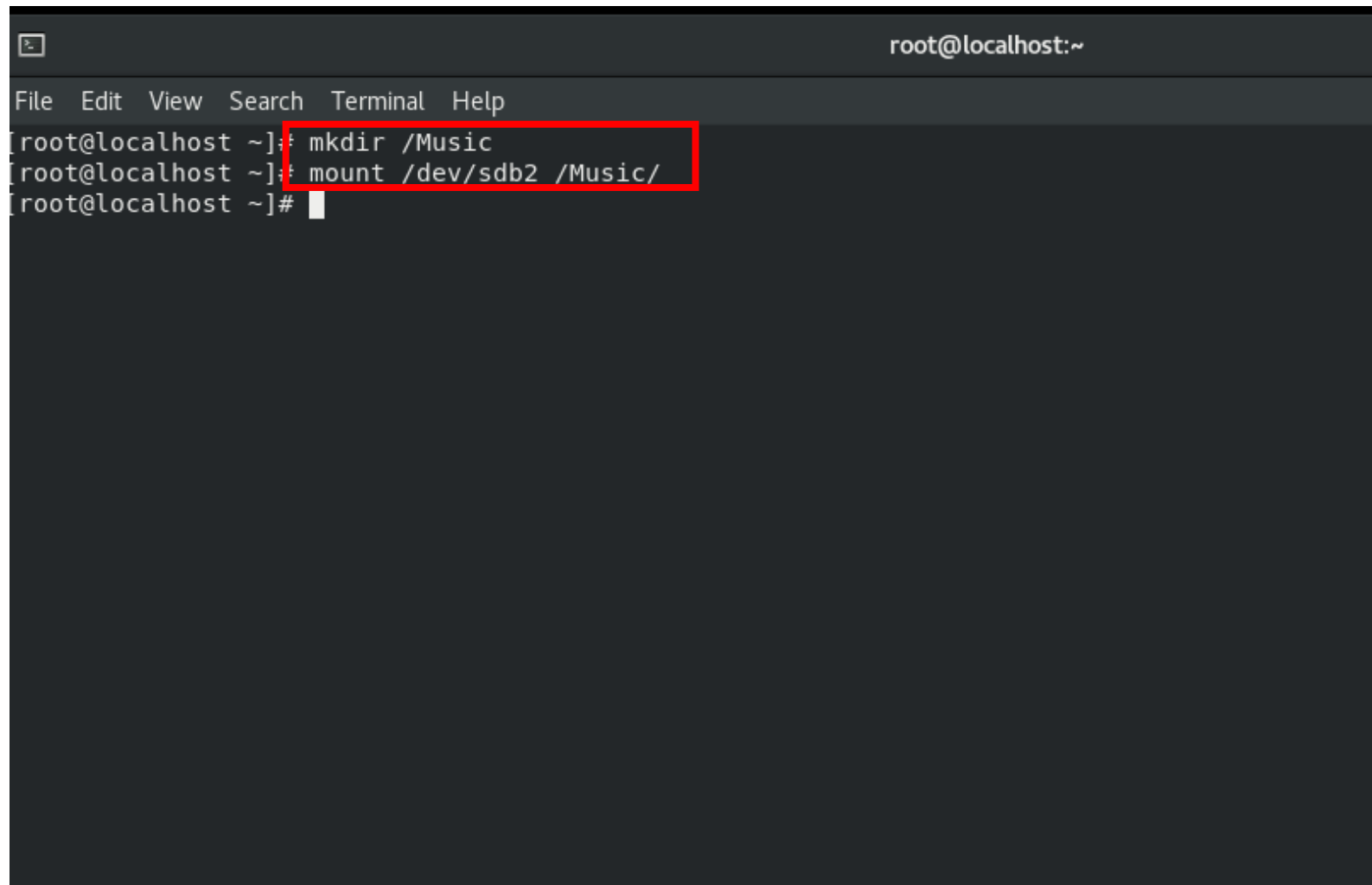
1. Make Directory /Data by "mkdir /Data"
2. Mount using "mount /dev/sdb1 /Data/"

A screenshot of a Linux terminal window. The title bar shows 'Activities', 'Terminal', and the date/time 'Dec 7 22:28'. The terminal content shows the user 'root@localhost' at the '~' prompt. The first command entered is 'mkdir /Data'. The second command entered is 'mount /dev/sdb1 /Data/'. A red rectangular box highlights the second command and its prompt. The terminal has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'.

```
root@localhost ~]# mkdir /Data
root@localhost ~]# mount /dev/sdb1 /Data/
root@localhost ~]#
```

Step 2

1. Make Directory /Music by "mkdir /Music"
2. Mount using "mount /dev/sdb1 /Music/"



A terminal window titled "root@localhost:~" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[root@localhost ~]# mkdir /Music
[root@localhost ~]# mount /dev/sdb2 /Music/
[root@localhost ~]#
```

The second command, `mount /dev/sdb2 /Music/`, is highlighted with a red rectangular box.

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

Ans. Go to Directory /Data and Directory /Music

Type command " fallocate -l 1G dummy.txt "

In both cases.

```
root@localhost:/Music
File Edit View Search Terminal Help
[root@localhost ~]# cd /Data
[root@localhost Data]# fallocate -l 1G dummy.txt
[root@localhost Data]# cd ../
[root@localhost /]# cd /Music
[root@localhost Music]# fallocate -l 1G dummy.txt
[root@localhost Music]#
```

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

Ans.

Type Command "df-h" for checking

```
root@localhost:/Music
File Edit View Search Terminal Help
[root@localhost Music]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/sdb1        4.0G  1.1G  3.0G  27% /Data
/dev/sdb2        5.9G  1.1G  4.6G  19% /Music
[root@localhost Music]#
```

SUBMITTED BY :

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SUBMITTED TO :

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