SYSTEM ADMINISTRATION
LAB ASSIGNMENT : LVM
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```
it2@Ubuntu16-04-Desktop:~$ sudo su
[sudo] password for it2:
root@Ubuntu16-04-Desktop:/home/it2# fdisk /dev/sda

Welcome to fdisk (util-linux 2.27.1).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.


Command (m for help): p
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: 0x2176a382

Device     Boot    Start      End  Sectors   Size Id Type
/dev/sda1  *        2048 18874367 18872320     9G 83 Linux
/dev/sda2       18876414 20969471  2093058  1022M  5 Extended
/dev/sda3       18874368 18876374     2007 1003.5K 83 Linux
/dev/sda4       20969472 41929649 20960178    10G 83 Linux
/dev/sda5       18876416 20969471  2093056  1022M 82 Linux swap / Solaris

Partition table entries are not in disk order.

Command (m for help): u
Changing display/entry units to cylinders (DEPRECATED!).

Command (m for help): n
All primary partitions are in use.
Adding logical partition 6
No free sectors available.

Command (m for help): d
Partition number (1-5, default 5): 4

Partition 4 has been deleted.

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Re-reading the partition table failed.: Device or resource busy
```

There was no space to create a new partition so the existing partition was deleted.

```
The kernel still uses the old table. The new table will be used at the next reboot or after you run partprobe(8) or kpartx(8).

root@Ubuntu16-04-Desktop:/home/it2# partprobe
Error: Partition(s) 4 on /dev/sda have been written, but we have been unable to inform the kernel of the change, probably because it/they are i
n use.  As a result, the old partition(s) will remain in use.  You should reboot now before making further changes.
root@Ubuntu16-04-Desktop:/home/it2# kpartx
The program 'kpartx' is currently not installed. You can install it by typing:
apt install kpartx
root@Ubuntu16-04-Desktop:/home/it2# fdisk /dev/sda

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Command (m for help): u
Changing display/entry units to cylinders (DEPRECATED!).

Command (m for help): n
Partition type
   p   primary (2 primary, 1 extended, 1 free)
   l   logical (numbered from 5)
Select (default p): p

Selected partition 4
First cylinder (1306-2610, default 1306):
Last cylinder, +cylinders or +size{K,M,G,T,P} (1306-2610, default 2610):
```

Now the new partion was made of 10Gb

```
Created a new partition 4 of type 'Linux' and of size 10 GiB.

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Re-reading the partition table failed.: Device or resource busy

The kernel still uses the old table. The new table will be used at the next reboot or after you run partprobe(8) or kpartx(8).

root@Ubuntu16-04-Desktop:/home/it2# partprobe
root@Ubuntu16-04-Desktop:/home/it2# fdisk /dev/sda

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```

Here are the entries of partition table where you can verify the newly created partion (/dev/sda4)

```
root@Ubuntu16-04-Desktop:/home/it2# mount -t ext4 /dev/sda4 /home/it2/mount
root@Ubuntu16-04-Desktop:/home/it2# df -BM
Filesystem                    1M-blocks     Used Available Use% Mounted on
udev                             1956M       0M     1956M   0% /dev
tmpfs                             396M      12M      385M   3% /run
/dev/sda1                        8943M    8466M        0M 100% /
tmpfs                            1976M       1M     1976M   1% /dev/shm
tmpfs                               5M       0M        5M   0% /run/lock
tmpfs                            1976M       0M     1976M   0% /sys/fs/cgroup
tmpfs                             396M       1M      396M   1% /run/user/108
10.1.119.76:/home/ce16/share   390132M  210138M  160153M  57% /home/coep/nfs
tmpfs                             396M       0M      396M   0% /run/user/1000
tmpfs                             396M       0M      396M   0% /run/user/1001
/dev/sda4                        9946M    4215M     5204M  45% /home/it2/mount
root@Ubuntu16-04-Desktop:/home/it2# 
```

Success