

Part I– Check your file system (30 points)

Step 1: I executed the `sudo ls /dev/sd*` command which displays all current hard disk devices.

```
(jasmin@Kali)-[~]  
$ sudo ls /dev/sd*  
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5
```

Step 2: I executed the **sudo fdisk -l** command which is used to list the current hard disk partitions.

```
(jasmin@Kali)-[~]
```

```
$ sudo fdisk -l
```

```
Disk /dev/sda: 25 GiB, 26843545600 bytes, 52428800 sectors
```

```
Disk model: VBOX HARDDISK
```

```
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: 0x4e9d9b72
```

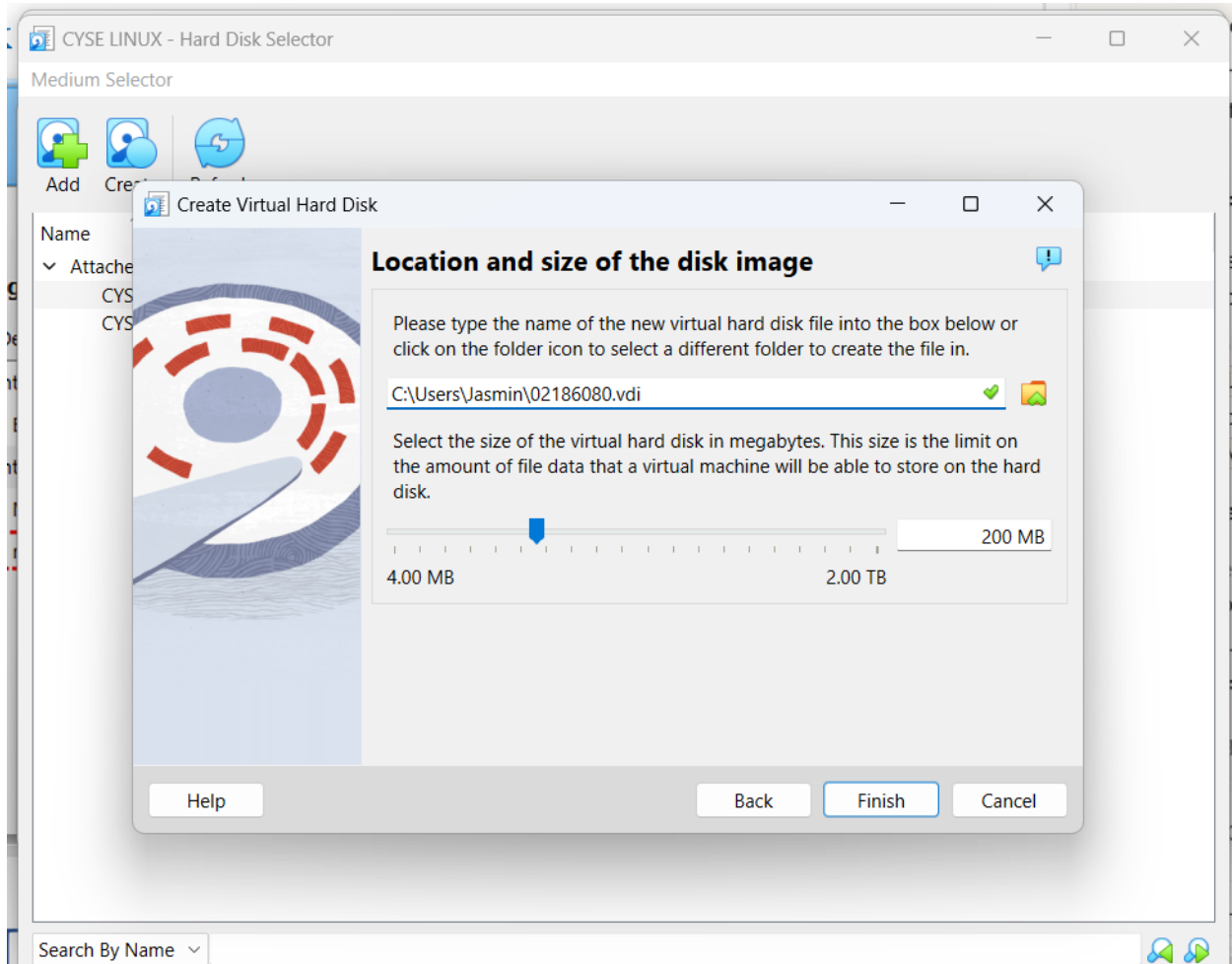
Device	Boot	Start	End	Sectors	Size	Id	Type
/dev/sda1	*	2048	49641471	49639424	23.7G	83	Linux
/dev/sda2		49643518	52426751	2783234	1.3G	f	W95 Ext'd (LBA)
/dev/sda5		49643520	52426751	2783232	1.3G	82	Linux swap / Solaris

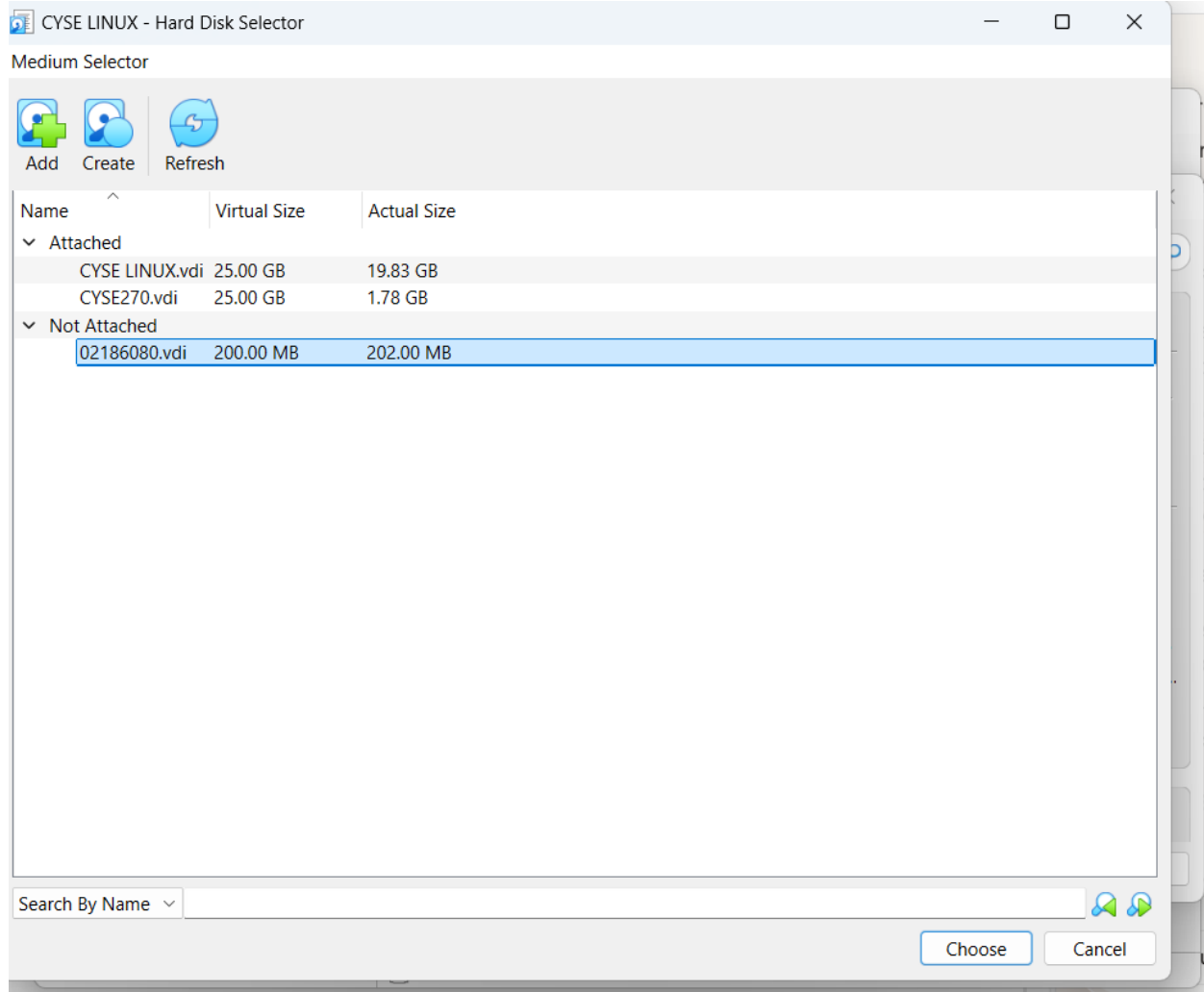
Step 3: I executed the **sudo parted -l** command which is used to list the current hard disk partition table.

```
(jasmin@Kali)-[~]  
$ sudo parted -l  
Model: ATA VBOX HARDDISK (scsi)  
Disk /dev/sda: 26.8GB  
Sector size (logical/physical): 512B/512B  
Partition Table: msdos  
Disk Flags:  
  
Number   Start    End      Size    Type    File system  Flags  
  1       1049kB   25.4GB   25.4GB   primary ext4          boot  
  2       25.4GB   26.8GB   1425MB   extended  
  5       25.4GB   26.8GB   1425MB   logical  linux-swap(v1) swap
```

Part II– Create a new virtual disk (30 points)

Step 1:



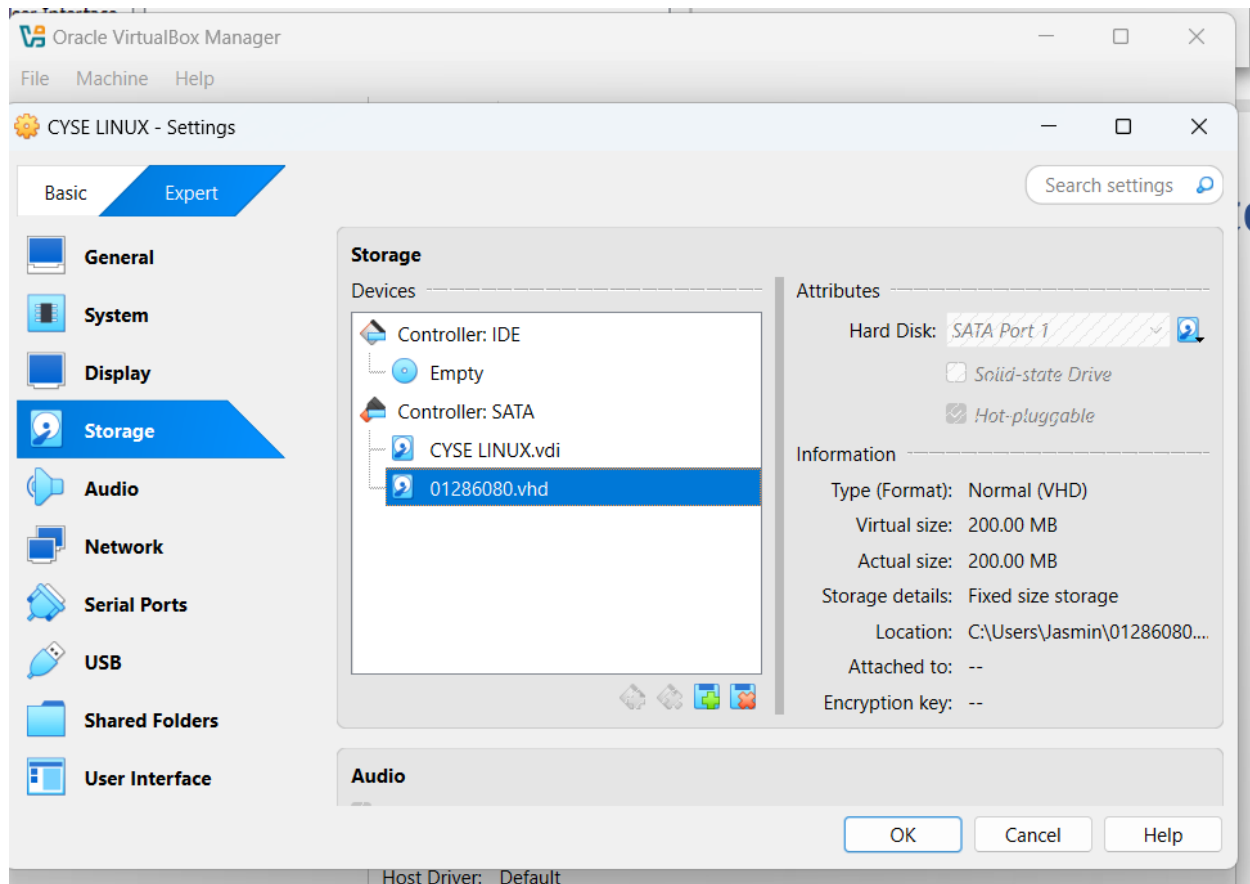


Step 2. I loaded the hard disk by going into

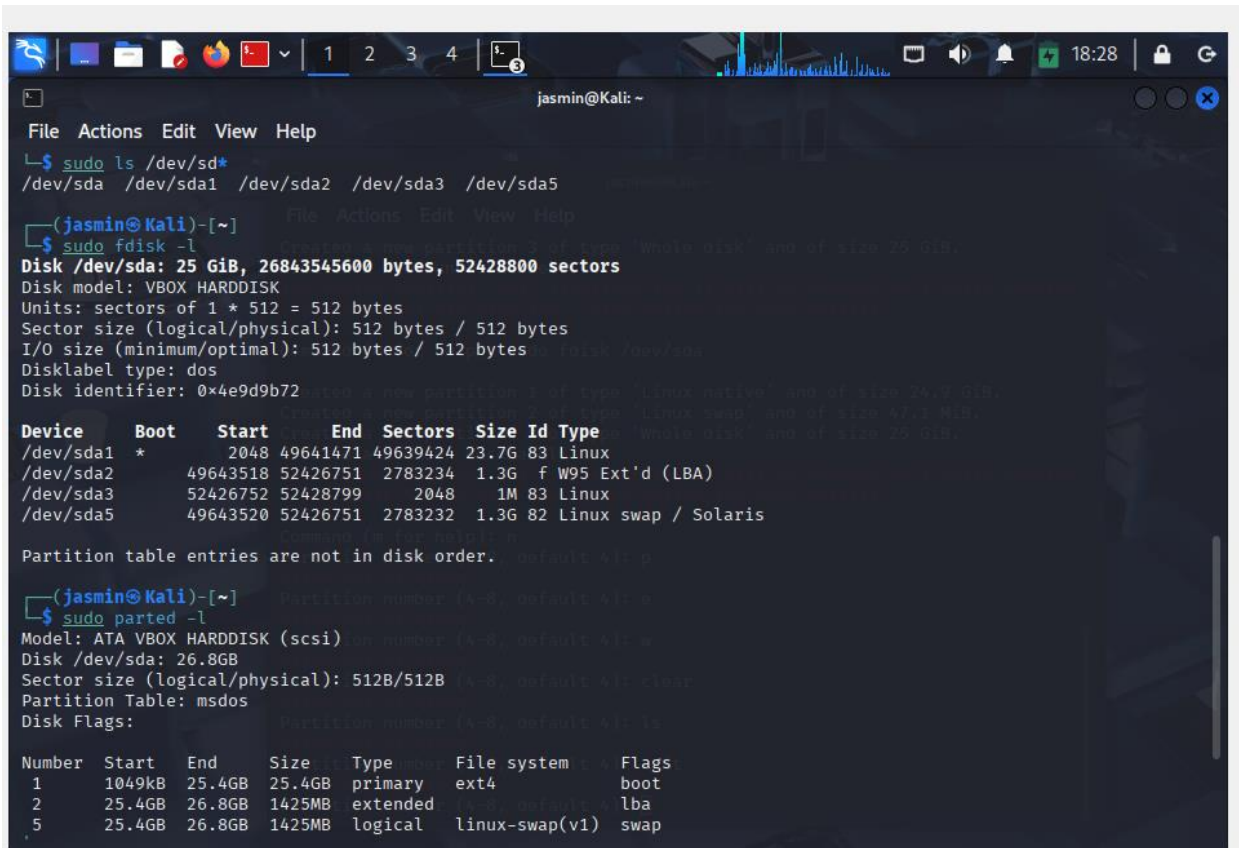
a. settings

b. storage

c. clicking on 01286080.vhd and then clicking on "ok"



Step 3. The changes that I noted after executed the three commands include



```
File Actions Edit View Help
└─$ sudo ls /dev/sd*
/dev/sda /dev/sda1 /dev/sda2 /dev/sda3 /dev/sda5

(jasmin@Kali)-[~]
└─$ sudo fdisk -l
Disk /dev/sda: 25 GiB, 26843545600 bytes, 52428800 sectors
Disk model: VBOX HARDDISK
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: 0x4e9d9b72

Device Boot      Start         End      Sectors  Size Id Type
/dev/sda1 *        2048     49641471   49639424   23.7G 83 Linux
/dev/sda2          49643518   52426751    2783234    1.3G  f W95 Ext'd (LBA)
/dev/sda3          52426752   52428799      2048      1M 83 Linux
/dev/sda5          49643520   52426751    2783232    1.3G 82 Linux swap / Solaris

Partition table entries are not in disk order.

(jasmin@Kali)-[~]
└─$ sudo parted -l
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sda: 26.8GB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type     File system  Flags
  1      1049kB  25.4GB  25.4GB  primary  ext4         boot
  2      25.4GB  26.8GB  1425MB  extended linux-raid    lba
  5      25.4GB  26.8GB  1425MB  logical  linux-swap(v1) swap
```

Part III– Creating Partitions and Filesystems (60 points)

Step 1. I executed the `sudo fdisk /dev/sda` command to create a new partition.

```
0 dump disk layout to sfdisk script file
Created a new partition 1 of type 'whole disk' and of size 25 GiB.
Created a new Sun disklabel.

Save & Exit
w write table to disk and exit
q quit without saving changes

Create a new label
Command is for help: sudo fdisk /dev/sda
g create a new empty GPT partition table
G create a new empty SGI (IRIX) partition table type 'linux native' and of size 24.9 GiB.
o create a new empty MBR (DOS) partition table type 'linux swap' and of size 87.1 MiB.
s create a new empty Sun partition table on 1 of type 'whole disk' and of size 25 GiB.
Created a new Sun disklabel.
Type
Command (m for help): d
Partition number (1-3, default 3): 3
for help:
If you want to maintain SunOS/Solaris compatibility, consider leaving this partition as Whole disk (5), starting a
t 0, with 52420095 sectors
Partition 3 has been deleted. Partition number (1-8, default 1): w
Command (m for help): n
Partition number (1-8, default 1): w
Partition number (3-8, default 3): 3
Partition number (1-8, default 1): w
It is highly recommended that the third partition covers the whole disk and is of type 'Whole disk'
First sector (0-0, default 0): 0
Last sector or +/-sectors or +/-size{K,M,G,T,P} (52420095-52420095, default 52420095): 52420095
Created a new partition 3 of type 'Whole disk' and of size 25 GiB.
```


Step 2. to create an ext4 filesystem on the new partition I used the `sudo mkfs.ext4 /dev/sdb1` command.

```
(jasmin@Kali)-[~]  
$ sudo mkfs.ext4 /dev/sda  
mke2fs 1.47.2 (1-Jan-2025)  
/dev/sda is apparently in use by the system; will not make a filesystem here!  
  
(jasmin@Kali)-[~]  
$
```