Exploring Hardware

Device Files /dev

- Look under `/dev` directory in your VM (`ls -la` to see the file type)
  - What file types do you see?
    - `-` : regular file
    - `d` : directory
    - `c` : character device file
    - `b` : block device file
    - `s` : local socket file
    - `p` : named pipe
    - `l` : symbolic link
  - What is under `/dev/disk`?
    - Explore this folder to see if you can identify your main hard disk
    - By looking at the hardware path can you identify what type of interface the disks have? (SATA, ATA, SCSI, etc…)

Storage

- Lookup these commands:
  - `lsblk`
  - `fdisk`
- Use `lsblk` and `fdisk -l` commands to look for following:
  - How many physical disks are attached to your system?
  - How big are the disks?
  - Is your physical disk partitioned and what are the names of the partition devices?
  - Look up what a loop device in Unix/Linux is (where to look up that information?)
    - How many loop devices, and what are their mount points? Can you guess what they are?

File system

- To create a unix/linux file system:
  - `mkfs`
- To get reports on file systems:
  - `df`
  - `du`
- What is your current system's disk usage?
  - How much free space left?
- How big are the files inside your home directory?
  - How much space is your home directory taking in total?

Multiple filesystems

- `/etc/fstab` file specifies the disks to be mounted on Startup
  - Mount points and other attributes can be specified
- Look up these commands:
  - `mount/umount`
  - `eject`
- Things to try out:
  - Mount a second disk to your VM and see if you can format and mount it.
    - Optionally you can have this second vdisk be permanently attached to your machine by modifying `/etc/fstab` file. Just make sure to backup your VM before, in case something goes wrong
  - Mount a CDROM/DVD drive to your VM (use an iso image and attach it to your VM) and explore the file system inside the removable media, then eject it.

Other hardware

- Explore the following commands:
  - `lshw`
  - `lspci`
  - `lsusb`
  - `lscpu`
  - `lsblk`
- Try attaching a USB device to your VM and see if it shows up using `lsusb`