

Please watch the video (Installing Linux using Oracle VirtualBox) that was suggested by your instructor earlier.

Install Ubuntu on your laptop using VirtualBox Software. Please use your last name as the name of your newly installed server.

Recommended websites:

<https://linux.nci.nih.gov/bdge/installUbuntu.html>

<https://www.simplehelp.net/2015/06/09/how-to-install-ubuntu-on-your-mac/>

(Note: The latest Ubuntu may have a newer version. The steps to do some tasks may be slightly altered. If you are unable to install Linux after following the correct steps, chances are that your laptop Virtualization setup needs to be enabled. Please visit the following website listed below: <https://www.makeuseof.com/tag/virtualization-issues-simple-solutions/>)

After you have installed the Linux server, answers all questions below and submit your answers to the class blackboard. (100 points)

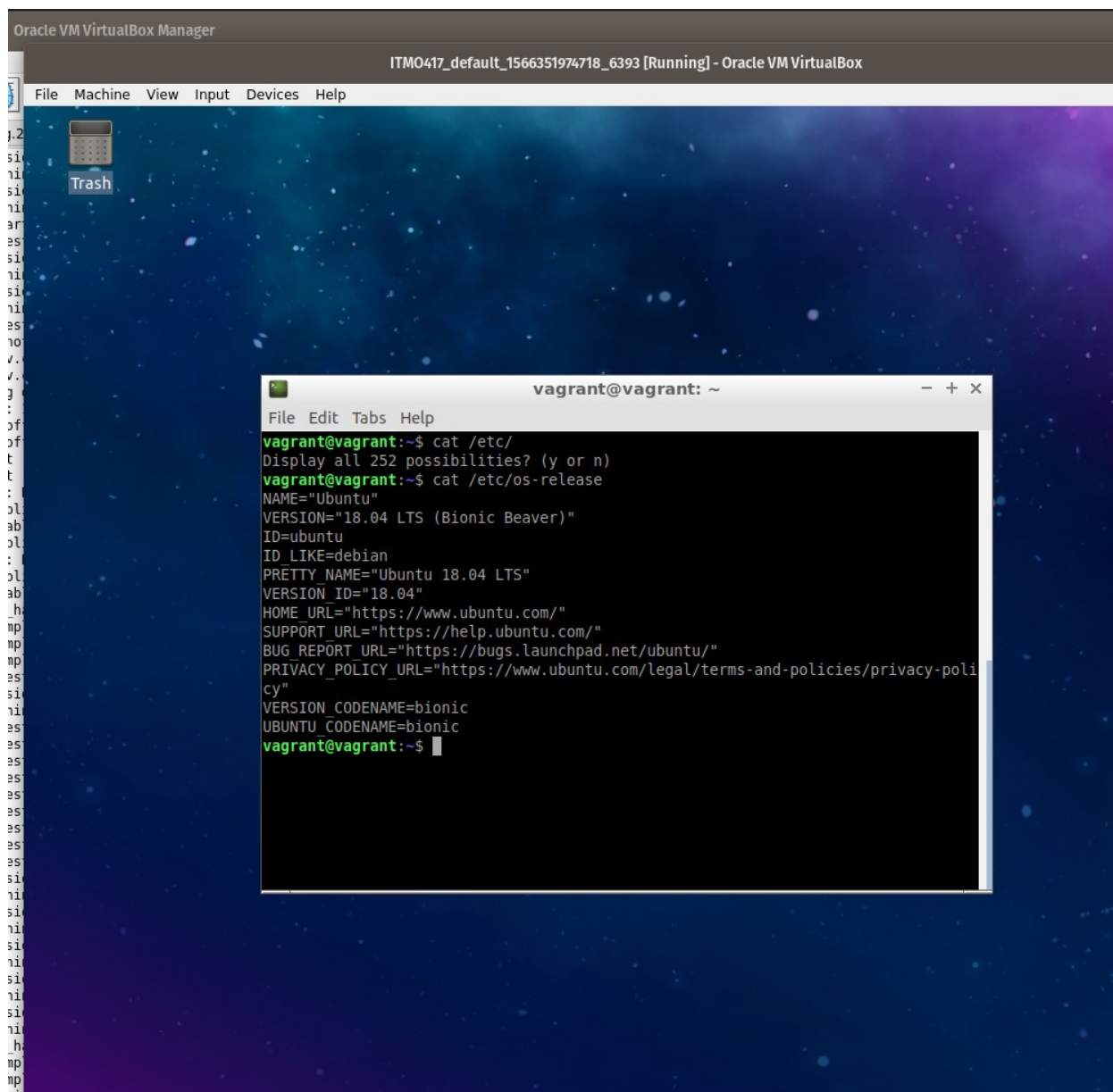
Question 1

Start your VirtualBox software. Before you click Start on your Ubuntu Graphical User Interface (GUI) desktop, at the very top of your VirtualBox bar, click “Machine”, and then click “Show Log” and a file will be displayed. Scroll up to the top of the file. You will see your desktop installation information and your desktop server name. Get a screen-shot of this file and paste it in this question as proof of your system installation.

```

10:00:00.351597 VirtualBox VM 6.0.6 Ubuntu r12922 Linux.amd64 (Apr 16 2019 22:08:12) release log
20:00:00.351600 Log opened: 2019-05-17T02:14:35.406392000Z
30:00:00.351601 Build Type: release
40:00:00.351604 OS Product: Linux
50:00:00.351605 OS Release: 5.0.0-15-generic
60:00:00.351607 OS Version: #16pop0-ubuntu SMP Wed May 15 14:41:25 UTC 2019
70:00:00.351631 DMI Product Name: All Series
80:00:00.351638 DMI Product Version: System Version
90:00:00.351673 Host RAM: 23977MB (23.4GB) total, 11277MB (11.8GB) available
10:00:00.351677 Executable: /usr/lib/virtualbox/VirtualBoxVM
11:00:00.351678 Process ID: 26081
12:00:00.351679 Package type: LINUX_64BITS_GENERIC (OSE)
13:00:00.351709 Installed Extension Packs:
14:00:00.351723 VNC (Version: 6.0.6 r12922); VRDE Module: VBoxVNC
15:00:00.351728 Oracle VM VirtualBox Extension Pack (Version: 6.0.6 r130049; VRDE Module: VBoxVRDP)
16:00:00.351745 Console: Machine state changed to 'Starting'
17:00:00.351786 Qt version: 5.12.2
18:00:00.351794 X11 Window Manager code: 2
19:00:00.351919 VRDE: loaded version 3 of the server.
20:00:00.363220 SUP: Loaded VMW8.r0 (/usr/lib/VirtualBox/VMW8.r0) at 0x0000000000000000 - ModuleInit at 0x0000000000000000 and ModuleTerm at 0x0000000000000000
21:00:00.363240 SUP: VMW8EntryX located at 0x0000000000000000 and VMW8EntryFast at 0x0000000000000000
22:00:00.363421 GUI: VMW8EntryX: Medium-enumeration finished!
23:00:00.364436 Guest OS type: 'Ubuntu 64'
24:00:00.364837 X Server details: vendor: The X.Org Foundation, release: 12004000, protocol version: 11.0, display string: :1
25:00:00.364844 Using XKB for keyboard to scan code conversion
26:00:00.365858 HWForced=true - SMP
27:00:00.365864 HWForced=true - 64-bit guest
28:00:00.367184 GUI: UIExtWidgetHostChdlog: s1tHandleHostScreenAvailableGeometryCalculated: Screen 0 work area is actually resized to: 1080x401 x 1920x1048
29:00:00.378251 File system of '/home/henryfbp/VirtualBox VMs/ITMO417_default_1566351974718_6393/Snapshots' (snapshots) is unknown
30:00:00.378257 File system of '/home/henryfbp/VirtualBox VMs/ITMO417_default_1566351974718_6393/Lubuntu-desktop-18.04-amd64-disk001.vmdk' is ext4
31:00:00.371199 GUI: UIExtWidgetHostChdlog: s1tHandleHostScreenAvailableGeometryCalculated: Screen 1 work area is actually resized to: 8x32 x 1080x1088
32:00:00.388519 Shared clipboard service loaded
33:00:00.388532 Shared clipboard mode: off
34:00:00.381181 Drag and drop service loaded
35:00:00.381186 Drag and drop mode: off
36:00:00.382464 Per-VM extradata API settings:
37:00:00.382469 VBoxInternal2/SharedFoldersEnableSymlinksCreate/vagrant="1"
38:00:00.382682 ***** CFGM dump *****
39:00:00.382685 [/] (Level 0)
40:00:00.382616 CSAMEEnabled <integer> = 0x0000000000000001 (1)
41:00:00.382619 CpuExecutionCap <integer> = 0x0000000000000004 (4)
42:00:00.382620 EnablePAE <integer> = 0x0000000000000001 (1)
43:00:00.382621 HWEEnabled <integer> = 0x0000000000000001 (1)
44:00:00.382621 MemBallloonSize <integer> = 0x0000000000000000 (0)
45:00:00.382622 Name <string> = "ITMO417_default_1566351974718_6393" (cb=35)
46:00:00.382623 NumCPUs <integer> = 0x0000000000000002 (2)
47:00:00.382623 PATHEEnabled <integer> = 0x0000000000000001 (1)
48:00:00.382624 PageFusionAllowed <integer> = 0x0000000000000000 (0)
49:00:00.382624 RamAllocationSize <integer> = 0x0000000020000000 (536 870 912, 512 MB)
50:00:00.382626 RamSize <integer> = 0x0000000040000000 (1 073 741 824, 1 024 MB)
51:00:00.382627 RamR0Enabled <integer> = 0x0000000000000001 (1)
52:00:00.382627 RamR0Enabled <integer> = 0x0000000000000001 (1)
53:00:00.382628 TimerMillies <integer> = 0x000000000000000a (10)
54:00:00.382628 UUID <bytes> = "94 30 ad c1 85 2e 61 46 a0 a1 2f 53 b1 fb f6 40" (cb=16)
55:00:00.382631
56:00:00.382632 [/CPU/] (Level 1)
57:00:00.382633 GuestCpuName <string> = "host" (cb=5)
58:00:00.382634 NestedHWVirt <integer> = 0x0000000000000000 (0)
59:00:00.382635 PortableCpuIdLevel <integer> = 0x0000000000000000 (0)

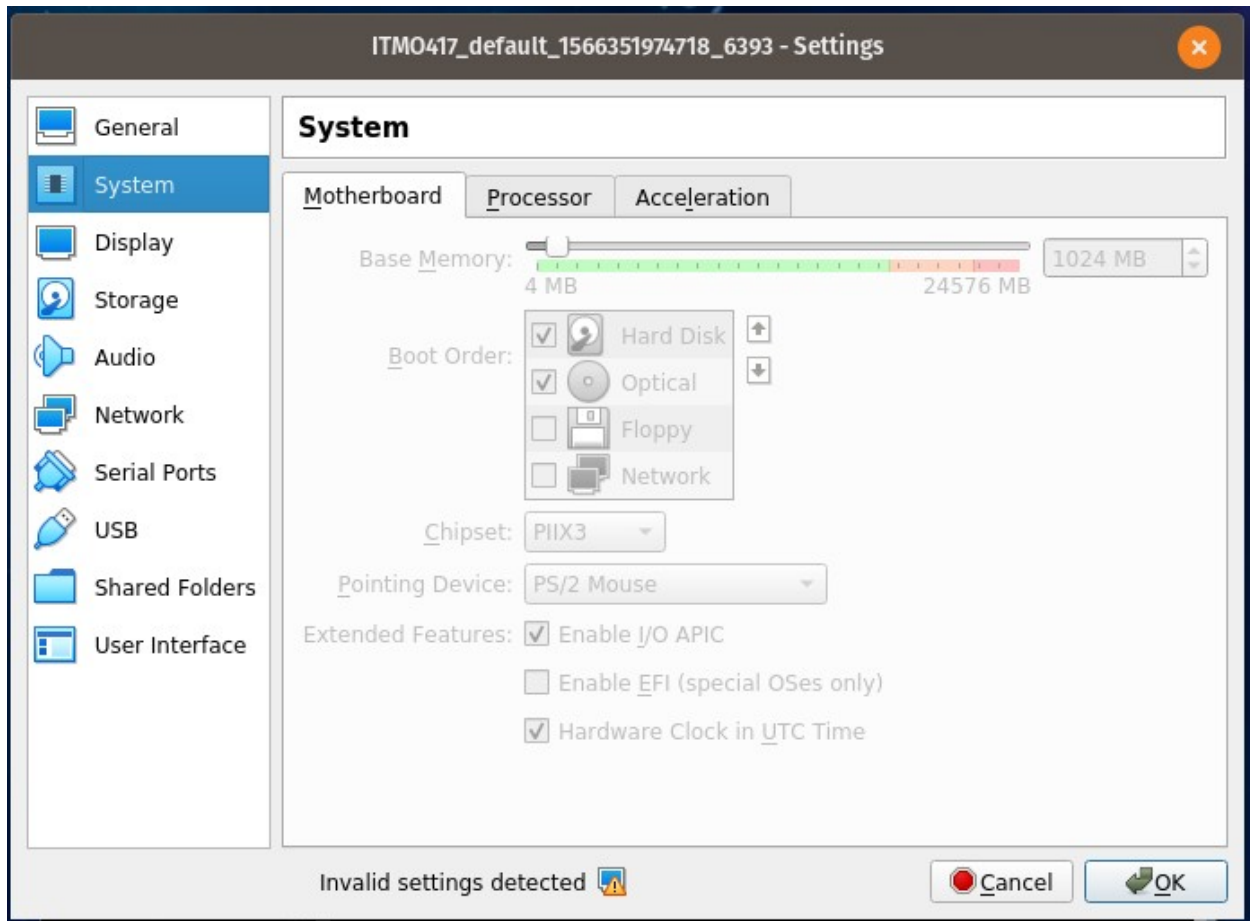
```



Question 2

Explain how you would get/display an Overview information on your Ubuntu desktop information hardware. Copy and paste the information in your answering document as proof of your work.

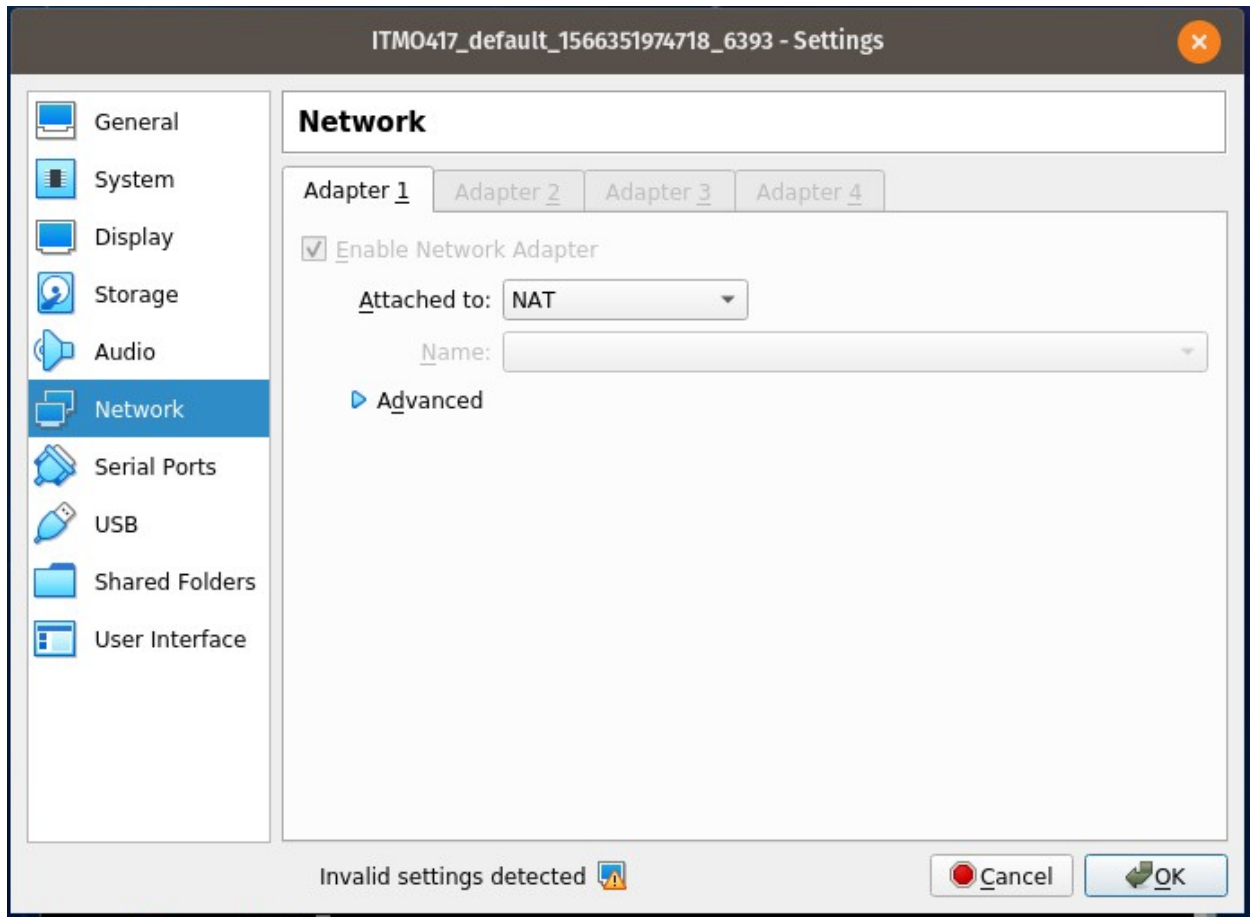
1. On the task bar in VirtualBox, select `Machine > Settings`.
2. Click on `System` for Motherboard, Processor, and GPU Acceleration features.
3. Click on `Storage` for storage options such as mounting VHDs or ISO files.



Question 3

Explain how you would get/display information on your Ubuntu desktop Network Wired information. Copy and paste the information in your answering document as proof of your work.

1. On the task bar in VirtualBox, select `Machine > Settings`.
2. Click on `Network` for network hardware options.

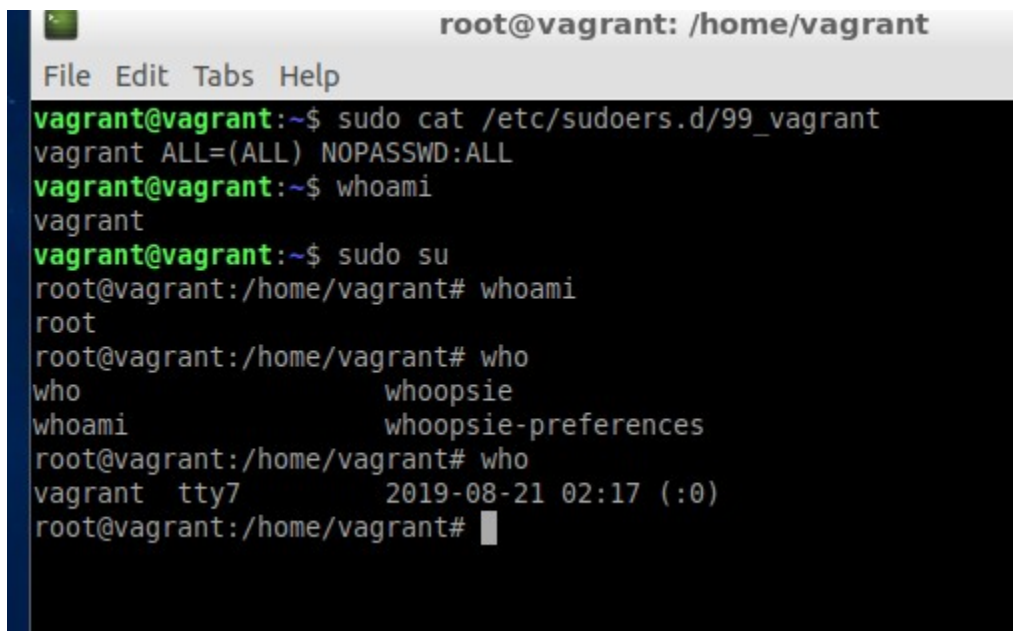


Question 4

There are two types of users; general users and super user. Explain how do you become a super user? Demonstrate how you become a super user. When you have successfully becoming a super user, exit from it and do a screen-shot on your work and submit the screen-shot as proof of your work.

If the username that you are logged in as is included in `/etc/sudoers` or as a file in the folder `/etc/sudoers.d/`, you can run the command `su` with no arguments to change your user to `root`.

In this case, I forgot my root password. I cannot run `su` because I need the root password to switch users to root. However, because I am a 'sudoer', I can run `sudo su` to start a new shell logged in as root.



```
root@vagrant: /home/vagrant
File Edit Tabs Help
vagrant@vagrant:~$ sudo cat /etc/sudoers.d/99_vagrant
vagrant ALL=(ALL) NOPASSWD:ALL
vagrant@vagrant:~$ whoami
vagrant
vagrant@vagrant:~$ sudo su
root@vagrant:/home/vagrant# whoami
root
root@vagrant:/home/vagrant# who
who whoopsie
whoami whoopsie-preferences
root@vagrant:/home/vagrant# who
vagrant tty7 2019-08-21 02:17 (:0)
root@vagrant:/home/vagrant#
```

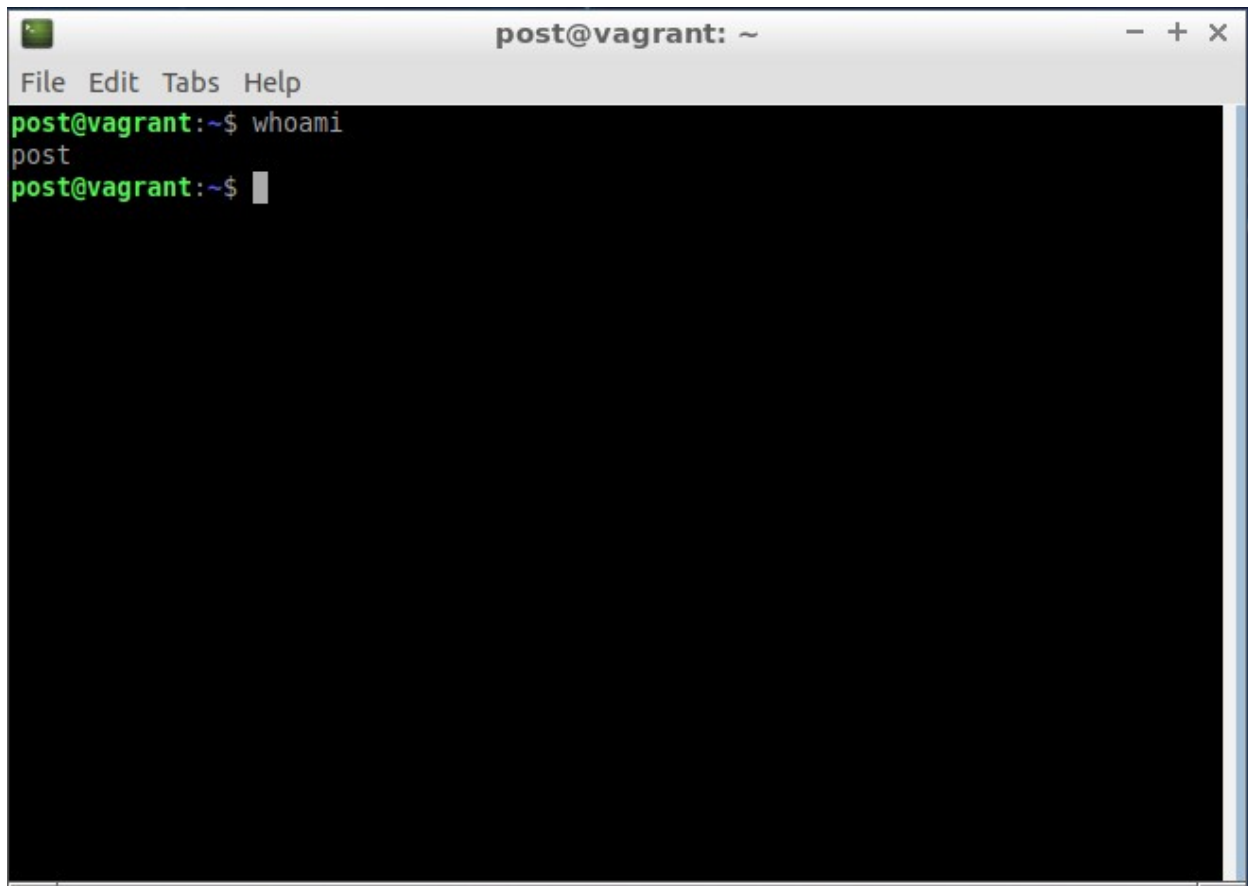
Question 5

Using **Microsoft Word** write a summary of what you have learned in this assignment (minimum of 150 words, use your own words). **Summarize your report, do not use bullet items.**

I already have a lot of familiarity with Linux and, if I am being honest, did not *learn* that many new things. However, I have gone over some things. I have gone over how to start a virtual machine and provision a Linux system from scratch. I have reviewed how to configure VirtualBox's hardware settings such as RAM, CPU cores and throttle, and network.

I have actually learned one new thing: There is a folder called `/etc/sudoers.d/` that contains files which describe sudoers. Originally, I had assumed that only `/etc/sudoers` existed but this is a cool pattern I have seen recently: `*.d/` folders that contain multiple config files!

I have also set up this virtual machine using a command-line tool called Vagrant because it is a very fast and easy way to provision virtual machines, and can run commands upon starting up VMs. I have also made a new user with my username and will now use that username to log in:



```
post@vagrant: ~  
File Edit Tabs Help  
post@vagrant:~$ whoami  
post  
post@vagrant:~$
```