Objectives of this lab:
1. To reinforce the concept that hardware and software play distinctly different roles in the use of a computer.
2. To emphasize the importance of the operating system to the user’s computing experience.
3. To give students the opportunity to interact with an operating system (OS) other than a Microsoft OS.
4. To encourage discussion on the topic of open source software.
5. To increase familiarity with computer networks, the Internet, and related topics.

Lab Instructions:

I. Boot your computer under Ubuntu Linux
   a. Insert the Ubuntu boot disk in your CD drive.
   b. Shut down your computer using the Restart option.
   c. Each time you are prompted to make a choice, just press the Enter key to accept the default value. The boot process will take 3 to 4 minutes, be patient.

II. Explore the Ubuntu environment
   This part of lab is intended to be something like a treasure hunt!!

   Q1. By searching around the icons and menus on your screen, identify by name an example of each of the following types of software in this system:

      What web browser is provided? ________________________________

      What word processing system is provided? _________________________

      What replaces the functionality of the Windows Explorer tool?
      ________________________________

      What games do you find? ________________________________

      How about a program for editing images or photographs?
      ________________________________

      How about a program or system for working with mail?
      ________________________________

III. Networking

   For this part of the lab you will need to be connected to the campus network. Use an Ethernet cable – it will be much simpler than configuring a wireless connection.

   When your computer connects to a network there are three different identifiers (or addresses) used by networking software to communicate with your computer. These three identifiers are: the computer’s physical or MAC address; your Internet Protocol or IP address; and your host name or internet name.

   To explore the network environment of your computer go to
System -> Administration -> Network Tools
set the Network Device to “Ethernet Interface”,
and go through some of the following questions OR just observe the instructor illustrating these steps.

Look at your network information reported, and determine the following:

Q2. The physical Hardware Address (MAC address) of the network adapter you are using to connect to the Internet.
   _____-____-____-____-____-____.

   NOTE: This Physical Address is assigned by the manufacturer of your network adapter and cannot be modified—it’s like a serial number for the network card. It provides a unique fingerprint for your network adapter.

Q3. The current IP (IPv4) address of your Thinkpad: ___10____.________.________.________.

   NOTE: On the WFU network this address is assigned to you dynamically through a system named DHCP and may change periodically. It is not a permanent address for your computer.

   Two important abbreviations in the computer networking world are DNS and DHCP. Use your browser to search for a definition/description of these terms that you can use to fill in these blanks.

Q5. In simple terms, a DNS server is a program on a network whose job it is to translate ______________________ into ________________________.

Q6. A DHCP server on a network is a protocol for managing the assignment of _______________________ to _________________________.

Q7. It is not uncommon to need to look up an IP address to see who it belongs to. This is similar to having a telephone number and wanting to know who it belongs to. We can do this job with the Network Tool you have been using by clicking on the “Whois” tab and entering an IP address. Try each of these in turn.

   207.171.175.29 belongs to ________________________
   What range of addresses do they control? ________________________

   152.17.8.11 belongs to ________________________
   What range of addresses do they control? ________________________

   130.195.86.18 belongs to ________________________
   HINT: it is a university on a different continent

Type in the 10.104 address you identified as your current IP address in Q3
IV. The Internet
Just like cities have traffic monitoring systems, so does the Internet. Let’s check on the current status of the global Internet. Open your browser and go to http://www.internettrafficreport.com.

According to the Internet Traffic Report web site

Q10. Which continent currently has the “worst” network performance? [You may need to check the FAQ to see if a higher number is better or worse!]

Q11. Over the past 24 hours what has the average “Response Time” been for data traveling over the Internet inside North America?

Is that considered good performance or poor performance?

V. The Power Button icon is the rightmost icon on the Menu bar. It looks like a circle with a vertical line in the center. Click on the icon and Shutdown. Remove the Ubuntu disk. Power off if you need to. You are welcome to keep the Ubuntu CD if you want.