There are 8 short answer Questions near the end of the lab. Write your responses on this handout and submit it by class on Tuesday.

Network Addresses

I. Background information
When your computer connects to a network, there are three different “addresses” that identify your computer on the network. These are:

1) The **physical address** (also known as the “MAC address” or “hardware address”) of the connected network adapter. This hardware address is a unique code that is permanently assigned by the manufacturer to the network adapter and cannot be changed. It acts much like a serial number for your computer on the network. A physical address might look something like “00-15-58-2B-2C-BC”. Note that your laptop has a wireless network adapter and a hard-wired or Ethernet adapter. Each one of these adapters has a unique MAC address.

2) The **IP address** of your computer, which might look something like “10.104.92.208”. On the WFU network (and many other networks, including most Wi-Fi hotspots) an IP number is dynamically assigned to your computer when you connect to the network. This is accomplished through a system known as **DHCP** (dynamic host configuration protocol). This dynamically assigned number is only valid on the local network (e.g. only on the WFU campus). Such an IP address is called a “private address” – private IP addresses always start with either “10.” Or “192.168.”

Web servers and other more permanent computers have a permanently assigned IP address which is available to the public.

3) Your computer’s **host name** is a human-readable identifier. **DNS** (the domain name system) keeps track of the translations between host names and IP numbers.

II. Determine your laptop’s network configuration on the private network

1) Run the Windows program **ipconfig**. To do so:
   a. **Start** then **Run**
b. Enter cmd at the prompt and then click OK. This will open a “DOS command prompt window” which is a command line interpreter user interface for Microsoft Windows.

c. Expand the DOS window so that there will be room to see the results of the following step.

d. Type ipconfig /all in the DOS window then press Enter. You should now see the complete IP configuration of your laptop. The first section, which displays general configuration information, is followed by additional sections describing the configuration of each “Ethernet adapter” that is present in your computer. (An Ethernet adapter is a particular piece of hardware that is installed in your laptop that allows you to connect to a local area network through a cable).

2) Answer the following questions based on the configuration information that is displayed.

Q1. Based on the configuration information that is displayed:

A. What is your laptop’s Host Name?
___________________________________________________

B. Your laptop may show more than one “network adapter”. How many do you see listed? _________

C. Of those, which one is connected?
___________________________________________________

D. Why do you have more than one?
___________________________________________________

E. What is the Physical Address of the adapter that is connected?
_____-_____-_____-_____-_____-_____

F. What is the current **IP Address** of the adapter that is connected?
_____._____._____._____

G. What is the current IP Address of the **DHCP server**?
_____._____._____._____

H. What is the current IP Address of the **DNS server**?
   (just give the first one listed) ______.______.______.______