	De La Salle University Computer Technology Department **Introduction to Computing**

Laboratory Activity #03: Basic Networking

Group Number	12	Section	S19
Members	Clemente Daniel	Date Performed	3/16/23
	Gan Austin		
	Meneses Hans		

This activity requires pairing with another group. Each group in a pair is referred to as Group A and Group B. It is up to you to decide which group will act as Group A and Group B. The computers used by Group A and Group B are referred to as Computer A and Computer B, respectively.

Our Group Assignment:
❑ Group 09_ / Computer A ❑ Group 12_ / Computer B

Partner Group Members:
Bea Alexis arcega
Isaac Nathan Roman
Clarence Bryant Borlaza

Equipment:

- Unshielded Twisted Pair (UTP) Cables
- Router
- PCs

A. Connecting 2 Computers [20 pts.]

1. Connect computers A and B using a **crossover cable**. A crossover cable is a UTP (unshielded twisted pair) cable whose ends are terminated using the following pattern:
    A. white-green, green, white-orange, blue, white-blue, orange, white-brown, brown
    B. white-orange, orange, white-green, blue, white-blue, green, white-brown, brown

2. Configure the IP address of both computers:
    a. Open the **Control Panel > Network and Sharing Center > Change Adapter Settings**.
    b. Click on the first **Ethernet** icon (Note: *Make sure that this is the Ethernet option used by your computer. The name of the network adapter is usually Ethernet, but this may vary depending on the computer you are using*) . Right click on the Ethernet , and choose **Properties**. This will open the Local Area Connection Properties window.

c. In the list box, select **Internet Protocol Version 4 (TCP/IPv4)**, and click the **Properties** button. This will open the Internet Protocol Version 4 (TCP/IPv4) Properties window.
d. Select **Use the following IP address** and enter the following values **[4 pts]**:

Field	Computer A	Computer B
IP address	172.16.5.151	172.16.5.152
Subnet mask	255.255.0.0	255.255.0.0
Default gateway	<blank>	<blank>

e. Click the **Ok** button to close the Internet Protocol Version 4 (TCP/IPv4) Properties window. Click again the **Ok** button to close the Ethernet Properties window.
f. Close other windows.

3. Check the IP address of the computers if they are configured correctly **[2 pts.]:**
   a. Open a command prompt window.
   b. Type the command **`ipconfig /all.`**
   c. Does the configuration match the configuration in step 2.d? _Yes__.
4. Check the connectivity of both computers **[5 pts]**:
   a. Open the command prompt window, and type the command ping <IP address of other computer> (e.g. `ping 172.16.5.151`).
   b. Do you receive at least one reply?_yes__. If yes, how many replies did you receive? _4__.
   c. Type the command ping <IP address of the other computer> -t. The option –t will continuously check your connectivity with the other computer (e.g. `ping 172.16.5.151 -t`).
   d. Do you receive replies from the other computer? __yes__.
   e. Remove the crossover cable from one of the two computers.
   f. Do you receive replies from the other computer? ___no___.
   g. Place back the crossover cable.
   h. Do you receive replies from the other computer? __yes___.
   i. Press Ctrl+C to terminate the ping command.
   j. Close the command prompt window.
5. Share a file and folder **[5 pts]**:
   a. Open the **File Explorer** (click Start menu, choose File Explorer, or it can also be accessed on your Taskbar).
   b. Select **Acer C** drive (or Local Disk C). Create a folder in Acer C drive (or Local Disk C), and named it as **Group#_Section** (e.g. Group1_S11). (Note: to create a folder, right click on the Acer C drive and choose New -> Folder).
   c. Go inside the folder and create a text file with a filename **Message.txt**. Note: to create a text file, right click your mouse and choose **New -> Text Document**.
   d. Open the Message.txt file and type any message. Save and close the file.
   e. Select the Acer C drive (or Local Disk C). Right click on the folder you created and choose **Properties**. Click on the **Sharing tab**, and click on the **Advance Sharing…** button. Check the **Share this folder** check box. Press the Ok button.
   f. Close File Explorer.
6. Access the shared folder of the other computer **[4 pts]**:
   a. On the search bar on the taskbar. type \\<IP address of the other computer> (e.g. `\\172.16.5.151`).
   b. Are you able to see the shared folder of the other computer? __yes__. If yes, open the shared folder and open the shared text file. Are you able to open the shared text file? _yes___.
   c. Close Windows Explorer.

B. Connecting 2 Computers using a Router [15 pts].

7. Connect computers A and B to a network router using straight cables. A straight cable is similar to a cross cable but both ends follow the same pattern.

straight-through cable pattern:
white-orange, orange, white-green, blue, white-blue, green, white-brown, brown
white-orange, orange, white-green, blue, white-blue, green, white-brown, brown

8. For this part, you will be using a CISCO router which has 4 built-in Ethernet ports. Make sure to connect Computer A to port 1 and Computer B to port 2 of the router (as shown in the image below).

9. Check the IP address of the computers if they are configured correctly:
    a. Open a command prompt window.
    b. Type the command `ipconfig/all`.
    c. Does the configuration match the configuration in the previous activity (Part A)? ____yes__.
10. Check the connectivity of both computers:
    a. In the command prompt window, type the command ping <IP address of other computer>.
    b. Do you receive at least one reply? __yes____.
    c. Close the command prompt window.
11. Access the shared folder of the other computer:
    a. Click Start->Run.
    b. Type \\<IP address of the other computer> (e.g. `\\172.16.5.152`).
    c. Are you able to see the shared folder of the other computer? ___yes___. If yes, open the shared folder and open the shared text file. Are you able to open the shared text file? __yes____.
    d. Close File Explorer.
12. Delete the shared folder of your computer.

C. Connecting 2 Computers to the Internet [15 pts].

13. The broadband router allows more than one computer to share Internet access. From the previous activity, the two computers are already connected to the built-in switch of the broadband router. Connect the Internet port of the broadband router to the network port on the table. Take note that the network port on the table is similar to the network port of a DSL modem provided by an Internet service provider (ISP).
14. Configure the IP address of both computers:
    a. Open Control Panel - Network and Sharing Center - .Change Adapter Settings.
    b. Right click on the Ethernet, choose Properties. This will open the Network Connections window.
    c. In the list box, select Internet Protocol Version 4 (TCP/IPv4), and click the Properties button. This will open the Internet Protocol Version 4 (TCP/IPv4) Properties window.
    d. Select "**Obtain an IP address automatically**". This will get an IP address from the broadband router. The broadband router has a built-in DHCP server which provides IP addresses to computers connected to it.
    e. Click the Ok button to close the Internet Protocol Version 4 (TCP/IPv4) Properties window. Click again the Ok button to close the Local Area Connection Properties window.
    f. Close other windows.
15. Check the IP address of the computers:
    a. Open a command prompt window.
    b. Type the command ipconfig/all.
    c. Fill-up the table below:

Field	Computer A	Computer B
IP address	192.168.1.126	192.168.1.132
Subnet mask	255.255.255.0	255.255.255.0

Default gateway	192.168.1.1	192.168.1.1

16. Surf the Internet:
    a. Open a web browser (e.g. Google Chrome). Since DLSU Internet access does not allow direct connection to the Internet, we need to configure browser to use a proxy server:
        i. In Google Chrome click on the **3-dots** as seen at the upper right portion of the window. Select the **Settings** options. This will open the system settings of Google Chrome.
        ii. Select the Settings option, and select the **Open your computer's proxy** settings options.
        iii. You may turn on the **Automatically Detect Settings**.
        iv. Turn on the **Use a proxy server**, and type **http://proxy.dlsu.edu.ph** in the address field and **80** for the Port field.
        v. Click on Save and close the window.
    b. Type www.cisco.com in the URL field. Are you able to view www.cisco.com? ___yes___

Reflection:

What problems did you run into during the exercise, and how did you deal with them?
One of the problems we faced was connecting the 2 computers to the same router. We solved this problem by checking the other network connections available, since we were looking at the wrong network connections. We also had a problem with the instructions, since we connected with the router in the first step.

Items	Possible Points	Earned Points
Procedure A	**20**	
Procedure B	**15**	
Procedure C	**20**	
Reflection	**5**	
Total Score	**50**	