5 Computer Networks

Activity 5.1

## Identifying the main components in the school's network

1. With the assistance from your teacher, inspect the computers in the computer laboratory and identify those that are networked and the devices and how they are connected.

2. Complete the table below with information collected about the computers and the devices in the computer laboratory.

Hardware	Available or not		Numbers	Wired or Wireless	Function (briefly)
	Have	Haven't			
Computers					
Server computers					
Switches					
Routers					
Printers					
Scanners					
Multimedia projectors					
Other					

Given below is a block diagram of a computer network showing how the computer and the devices are connected.
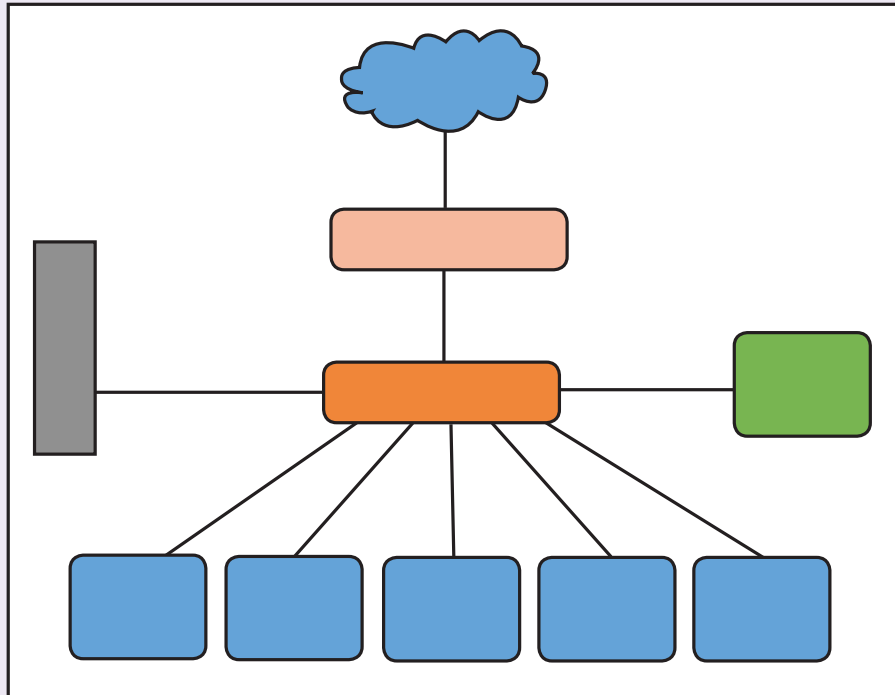
The table below indicates the details of the connected hardware;

Devices connected	Code
A few computers	C1, C2, C3…
Switch	S
Router	R
Printer	P
Internet	I
Server	SVR

.

Identify the hardware to match the code given. Indicate the correct code of the hardware in the diagram above.

Activity 5.3

Select the most suitable word from those in the box to fill the blanks in the statements 1 - 10 given below.

server, wired, network, networking system, fiber optics, cables, Internet, computer network, communication, resources, social networks, wireless, Wi-Fi, instant messaging

1. Inter-connection between and among people or a number of systems is identified as a ....

2. Connecting together two or more computers and peripherals is identified as a ....

3. The main aim of networking computer is for communication to share ....

4. A benefit in computer networking is the facility to use the ....

5. There are two types of media to connect computers. They are: .... and .... connections.

6. Wireless computers use the .... technology.

7. .... enables communication among users in a network.

8. The .... enables connect printers, files and software for sharing purposes.

9. Modern day computers also have built-in facilities for ....

10. .... are used to connect computers for networking.

Activity 5.4

Select from B, the most suitable expression to match each expression in A. Write the number of the matching expression in the blank alongside B.

A	B	
1. RJ45	switch	....
2. Main objective of computer networking	twisted pair cable	....
3. Command Line Interface	Ability to store important information in a folder in the Internet	....
4. Allows for direct and efficient communication between the computers in the network and other peripherals	connecting one computer network to another network or to the Internet	....
5. Bluetooth	network	....
6. The computer that provide the central access to resources	port used to connected cables in wired networking	....
7. Is used as a medium in computer networking	communication	....
8. Router	used to send messages in the network	....
9. Is a benefit of networking computers	server	....
10. An interconnected group of people, items or a systems	used for wireless connection between computer devices	....

Activity 5.5

Sharing file folder

- Consider an instance of sharing pictures, lessons, photographs, songs, video clips and the like among friends.

- To make this activity easy, let us first create folder named "Students Files" in the C drive of the hard disk.

  (You may select a name of your choice for the file).

- Copy into this folder, all pictures, photographs, songs, video clips and other files for sharing purposes.

> Note well : Login to the computer using an Administrator Account. The states of your account may not allow you for certain settings.
>
> Therefore, your teacher will demonstrate this activity. The Operating system used for this activity is Windows 10.

- Now, let us set the "Students Files" for sharing in the network.

- Follow the given procedure to change settings in the operating system.

Step 1 - Open 'Control Panel'. Click "Network Sharing Centre".
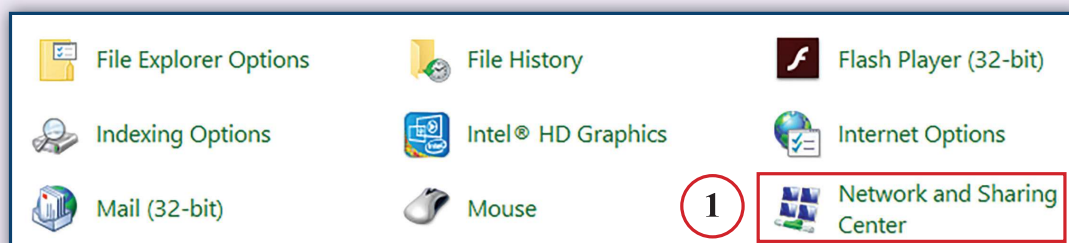
Step 2 - Click 'Change advanced sharing settings'.
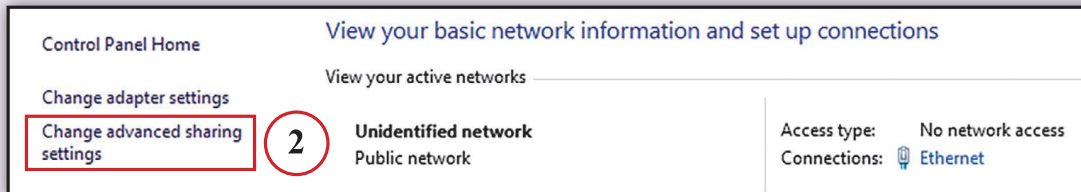
Step 3 - Select options from those given to share files and printer.
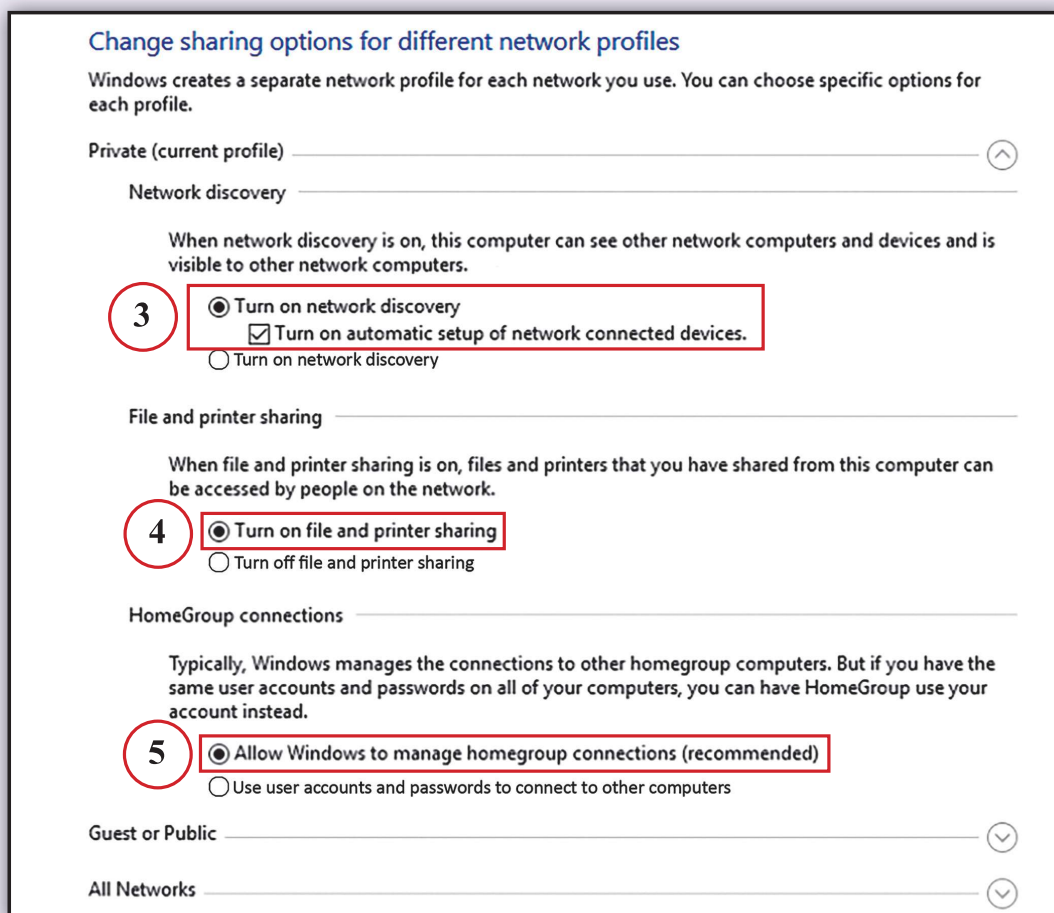
Step 4 - Select C Drive in your computer. Follow the given procedure to select "Students Files" in it.

6 This PC

7 Local Disk (C:) DVD RW Drive (D:) Local Disk (E:) Local Disk (F:)

Program Files (x86)	5/10/2018 3:35 PM	File folder	
Students file	6/15/2018 9:00 AM	File folder	
Users	7/13/2017 10:59 AM	File folder	
Windows	6/10/2018 2:06 PM	File folder	
msdia80.dll	12/2/2006 12:07 PM	Application extens...	
8 Students Files	6/15/2018 2:03 PM	File folder	

Step 5 - Right click on 'Students Files' in C drive and click 'Properties'.

Open
Edit
New
Print

Convert to Adobe PDF
Convert to Adobe PDF and EMail
Combine supported files in Acrobat...

Open with   >
Share with   >
Add to archive...
Add to "íngi.rar"
Compress and email...
Compress to "íngi.rar" and email
Scan With Smadav
Restore previous versions

Send to   >

Cut
Copy

Create shortcut
Delete
Rename

9 Properties

Step 6 - Click the button 'Share' in 'sharing'.
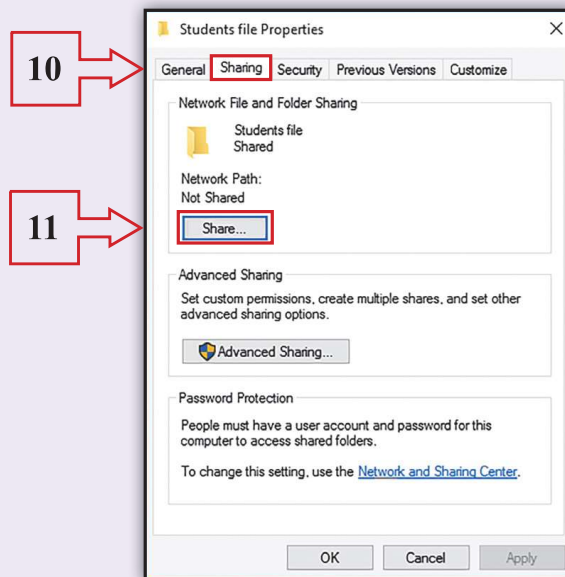
Step 7 - From the list select 'everyone'. Click 'Share'.
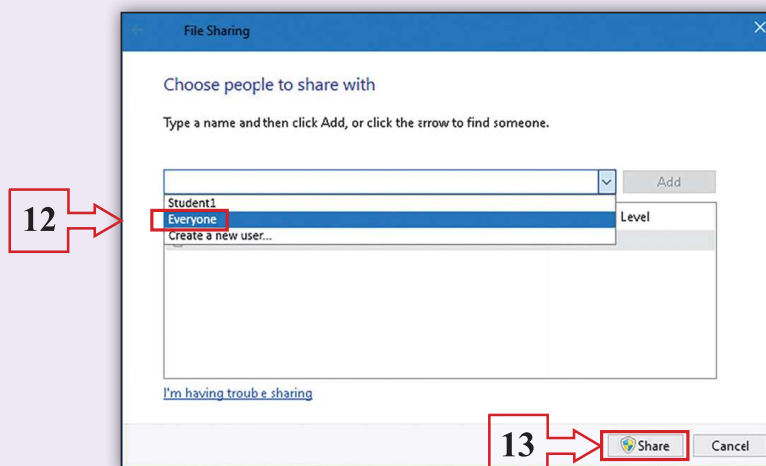
Step 8 - Click 'Done' in the dialogue box that appears.
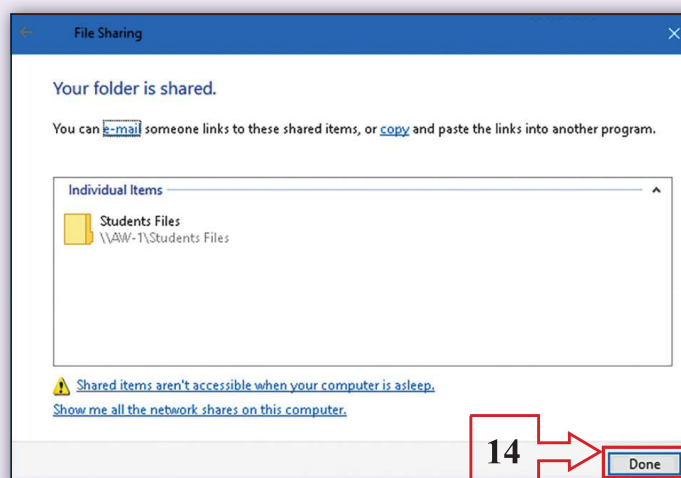
- You have completed the process to share files in 'Students Files'. Everyone in the network is now able to share all files in the file folder "Students Files".

- This process facilitates sharing any file in a file folder. A user in the network can also copy files into this folder
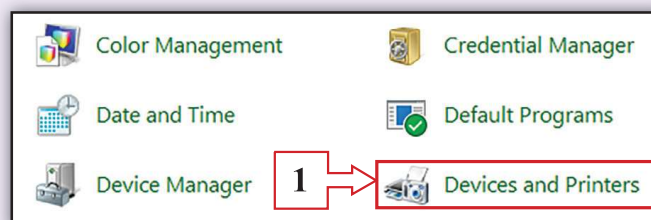
Activity 5.6

Sharing printer

- By sharing a printer allows any user in the network to send files from his/her computer to the printer for printing. However, the printer has to be configured for the purpose.

- The same first three steps in the above process need to be followed in this process which is not mentioned here again.

- A further few steps have to be followed. They are given below:

> Note well : Login has to be with an Administrator Account. You teacher will help you with the process.

- Set the printer for common use among users in the network.

Step 1 - Go to Control Panel, select 'Devices and Printers' and click on it.

Color Management   Credential Manager
Date and Time   Default Programs
Device Manager   1 →   Devices and Printers

Step 2 - Select the printer connected to the network among the devices shown. In the menu you get, click 'Printer Properties'.
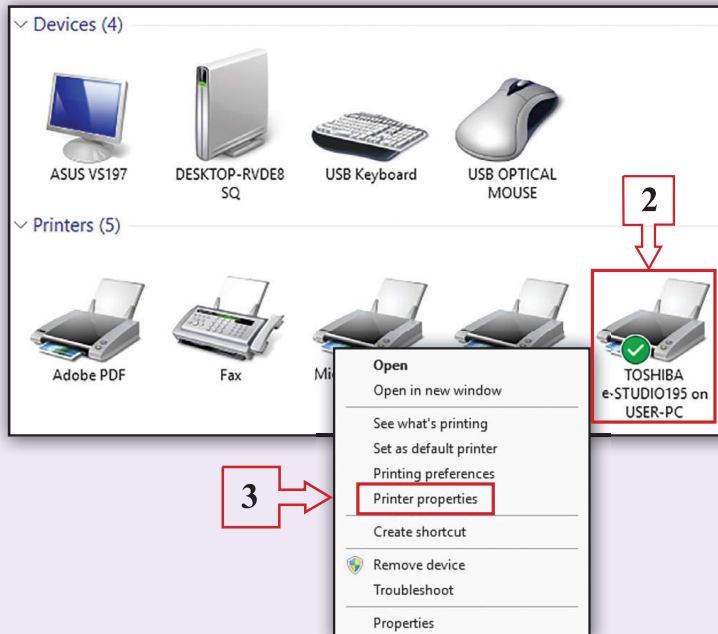
Step 3 - Click 'Sharing' in dialogue box you get.
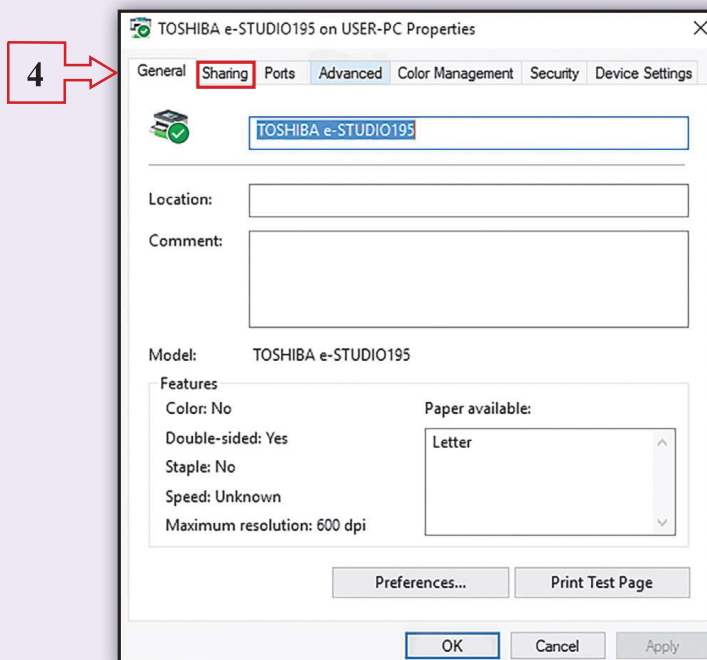
Step 4 -   Select 'Share this printer' in dialogue box. Press 'OK' button.
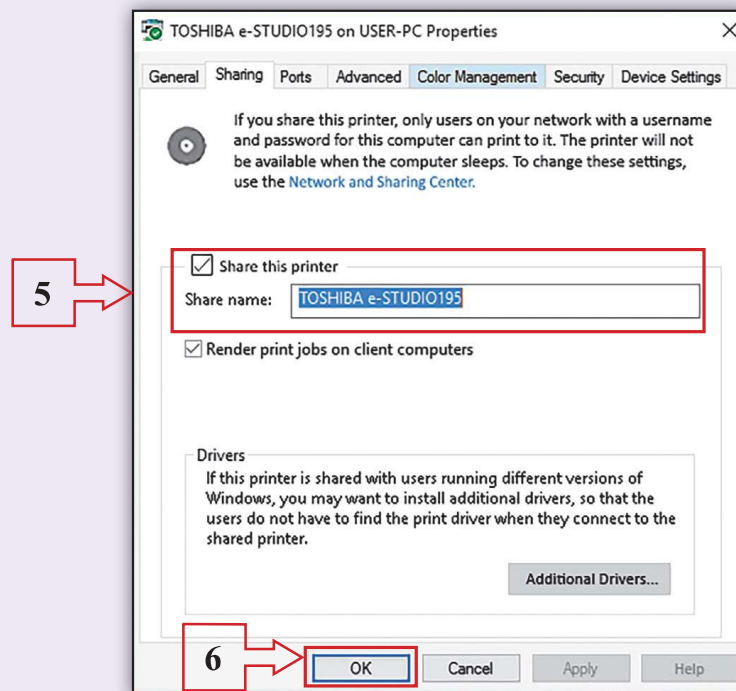
This completes the process to access the printer in the network. Everyone in the network can now share the printer for printing.

Activity 5.7

Communication through computer networks

- A user in a computer network can communicate with another user in the same network and any user can also receive a message from any another user in the network. In this, sending messages using the Connect Line Interface (CLI) is used.

- Consider sending the message 'Hello, how are you?' to other users in the network, using the CLI in Windows 10.

- Let us send the message, "Hello! How are you?" to a Friend logged in as student 1. Follow the process given below;
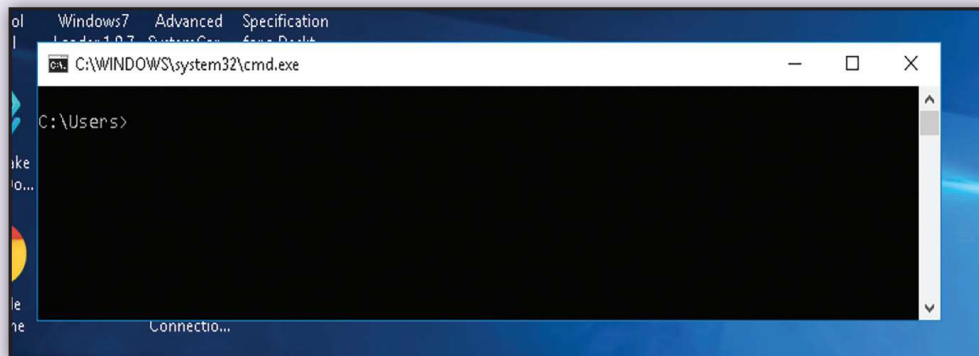
Step 1 - First, get the Command Line Interface on your computer. Follow the procedure given below to get Command Line Interface. Click 'Start' button. On "Windows Systems", right click it in the menu you get. Click 'Run'.
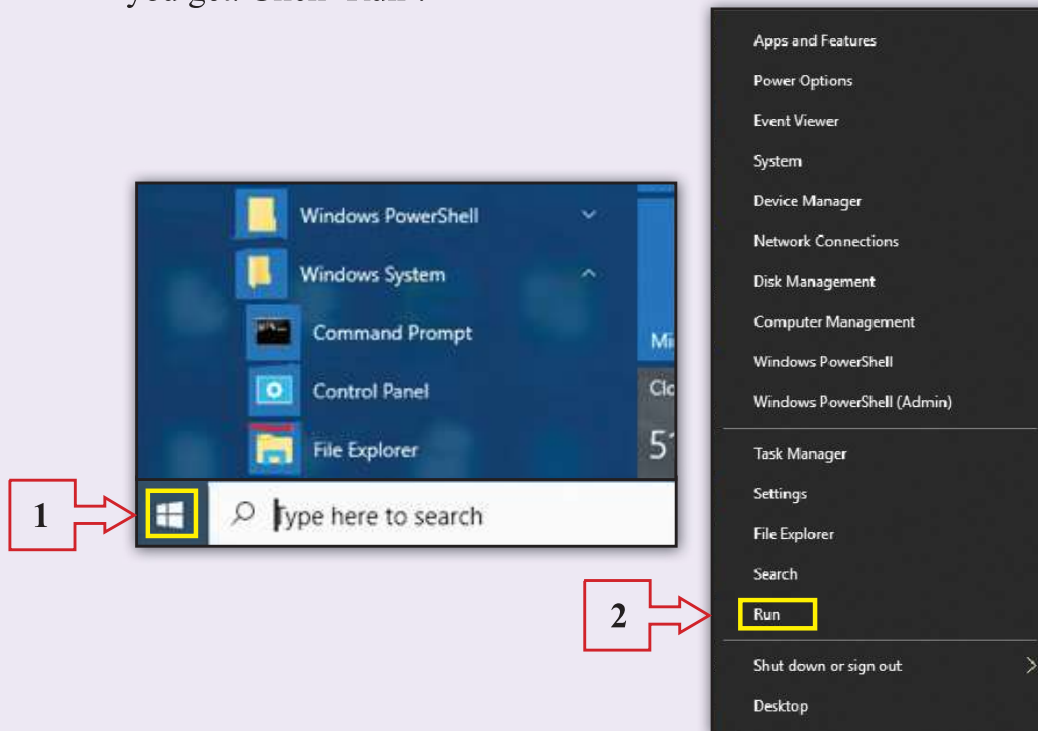
Step 2 - In the dialogue box received, type "cmd" in front of "Open". Click 'OK' button.
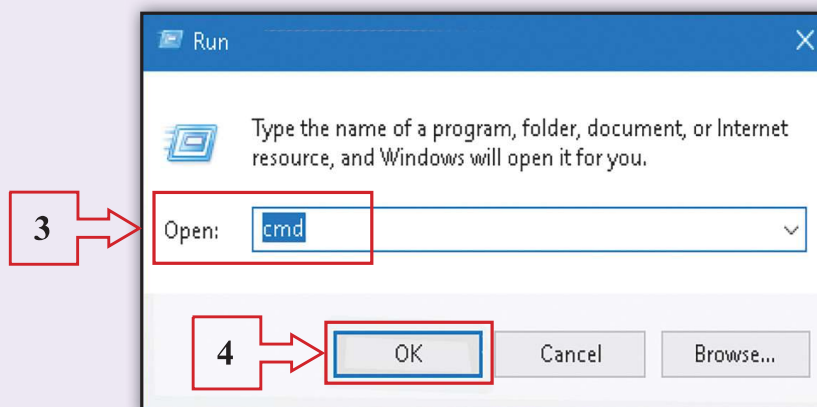
You will receive the Command Line Interface.

Type 'msg' command on Command line Interface. Type user name to collect the message. Type the message and press 'Enter'. The message will be sent to the user. The steps given below shows the process to send and receive messages.

Remember to give correct user name and correct "msg" message. Let us try sending a message.

- Assume that the message is, "Hello, how are you?" and the user name of the receiver is 'student 1'.

- The system of using the msg command is **msg user name message** Therefore, in the command line, you need to type 'msg student 1 hello how are you?'

- The command, user name and message require spaces in between.

Step 3 - On the Command Line, type 'msg student 1 Hello, how are you?' and press 'Enter'.
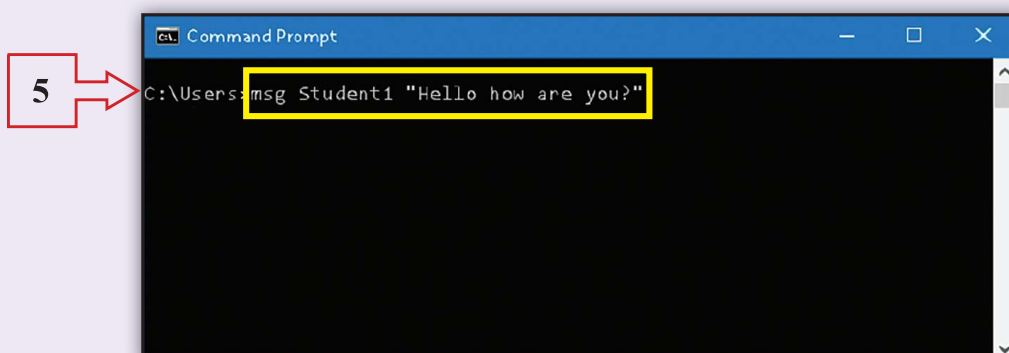
Your message appears on Student 1's computer screen as follows:
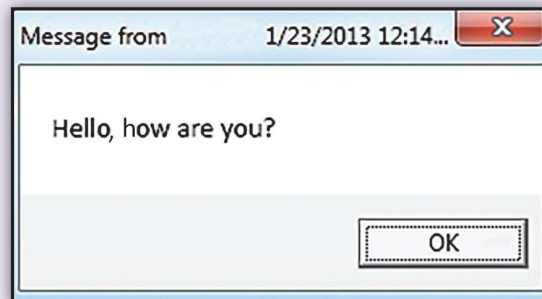
Activity 5.8

Sending a message to all users in the network system

Let us learn how to send the message, 'Hello, how are you?' to all users in the network system.

- The same msg command is used in this case.
- In the previous activity you used the user name of receiver student 1 after msg command.
- However in here, instead of one user, * mark for 'all' is used.
- Therefore, the command you need to type is msg * Hello, how are you?
- Type correctly on the Command Interface and press Enter.
- All users of the network will receive the message. Use this command to send different messages.

Note: The activities were all with Windows 10 system. If you are using Windows 7 or those before it, type 'net send' command instead of 'msg' command.