CS 610 Computer Networks

Assignment Statements:

Q1: Can CPU handle the broadcast address on LAN? Which type of technique is required to overcome this situation?
Answer:
most of LAN cards do when they are on Ethernet, your machine sill support any activity because LAN cards are connected to the CPU via the south bridge they do not have direct access to CPU. If this is for a router or switch a broadcast should be supported however for a switch a broadcast storm like spanning tree can kill it in less than 30 minutes.
There are some problems with the broadcast. For every broadcast frame on the network each computer uses computational resources and places the contents into memory, which interrupt the CPU. It allows system software to make the decision whether to discard or use the frames.
Another problem is that if a pair of computer use broadcasting instead of sending them directly all other computers waste CPU time while discarding the frames.
MULTICASTING:
The solution to above problem is multicasting. It is the restricted form of broadcasting. It works like broadcasting however it does not forward frames automatically to the CPU.
The interface hardware is programmed in advance to accept certain frames that have multicast address as the destination address.
If an application program wishes to receive certain frames then it program the interface hardware to accept an additional set of addresses.
The interface hardware frame then begins accepting three types of frames:
• Multicast frames
• Broadcast frames
• The frames that are distend ***to the station itself.***

Q2: What type of information is obtained from ping and trace route commands? And how can you differentiate these commands with the help of snapshot. Note: we should require your Personal computer information. So it is strictly prohibited the copied assignment.

Follow these steps and instructions.

1. Open a Windows start menu then click Run. **Start > Run**. Type **cmd** and click **OK**. If you have window 7 or vista, just go to search option in start menu and enter cmd. The command prompt will be opened. See snapshot 1.After that you can apply given above Question 2 commands.

Answer::

Ping is used to contact an ip address. You can ping it numerically or by name (e.g., www.google.com). Both should get you there unless you are having an issue with your DNS (domain name server -- the thing that translates the name to the ip address). What basically happens is your computer shouts to the computer at that address and says "Hey, you there?". If the other system hears, it will usually respond. It's like the 'ping' of sonar from a submarine -- it sends out a signal and listens for the echo. By default, it will do it 4 times. The data you get back is how long it took to get the signal back.

Ping is very useful if you are trying to determine where a network problem is. You can ping your default gateway which will show if you are communicating with your router/modem. You can ping upstream more or to somewhere like google. If you can't get to google but can ping it, then the problem is probably with your browser and not your connection because you are getting hout.

Ping will also tell you how slow the connection is between you and wherever. If your response time is horrible, don't expect to be playing a graphic-intensive online game without stuttering or lagging.

Trace route (tracert) will show what nodes that your computer's data goes through to get to a specified site. Also tells you how long it takes at each step. This is a pretty cool program as you can see exactly what path on the internet you are traveling. And if you tracert the same address, you may get a totally different pat. It takes what it thinks is the most efficient path and this can change due to latency and how busy a server en route is. From a general standpoint, to most users it is one of those programs that's a leftover from earlier OS versions. The general user has no idea what to do with any information he gets from tracert. But it still is a cool program to play with just to see what path you are using in the internet.