STEP #3: Answer the following questions:

Category III questions:

(5) Given that the physical transmission bandwidth of this local network is 1.0 Gbps Ethernet, how would you estimate the status of this local network (under-utilized, moderate-utilized, highly-utilized, or too busy). The same for (1) above for how you are expected to explain.

- Explain how you reached your conclusion.
- Explain the procedure you applied to do this.

The following figure (Figure 1) visualizes the network connection when the packet capture was performed (for the packet capture log).

The packet capture for your network analysis was performed at a network host computer, which is connected to a network hub, which can be either a switching hub or a repeater hub using a 1-Gbps (Ethernet) cable. Note that some other host computers can be connected to the same hub.

![Network Diagram]

**Figure 1 - the network connection when the packet capture was performed**

I would suggest the following information for you to answer this question:

(a) It is sure that all the packets that appear in your Wireshark packet capture log were delivered to the network host computer where the packet capture was performed (through the 1-Gbps Ethernet cable).

(b) There is a way you can calculate the total amount of data the network host computer received in one second (Wireshark has a tool to let you calculate the total amount of data).
(c) The network is considered:

- Under-utilized: if the observed utilization is less than 25%
- Moderately-utilized: if the observed utilization is over 25% but less than 75%
- Highly-utilized (possible congestion): if the observed utilization is over 75%