PART ONE

1.1 Which of the Seven Layers in the OSI Model is the highest layer represented by the image below? Justify your answer.
The Application layer is the highest layer represented because email services are at the 7th level and the computer switch shown in the image is a part of the datalink layer, which is a low layer.

1.2 Which of the Seven Layers in the OSI Model would you identify with the image below?Justify your answer.
The image appears to be an ethernet port and is a part of the 1st layer, the physical layer because this layer encodes and decodes the bits found within a frame.

1.3 Which of the Seven Layers in the OSI Model would you identify with the image below? Justify your answer.
The IP configuration is a part of the network layer because the 3rd layer is responsible for inter networking and addressing.

1.4 Which of the Seven Layers in the OSI Model would you identify with the image below? Justify your answer.
This is an example of the transport layer because there is a source and destination port, sequence number, and data column, which are all indicative of some kind of data transport.

1.5
Given the table below. Please identify all seven layers, name and description. Fill in the blanks for the missing sections.

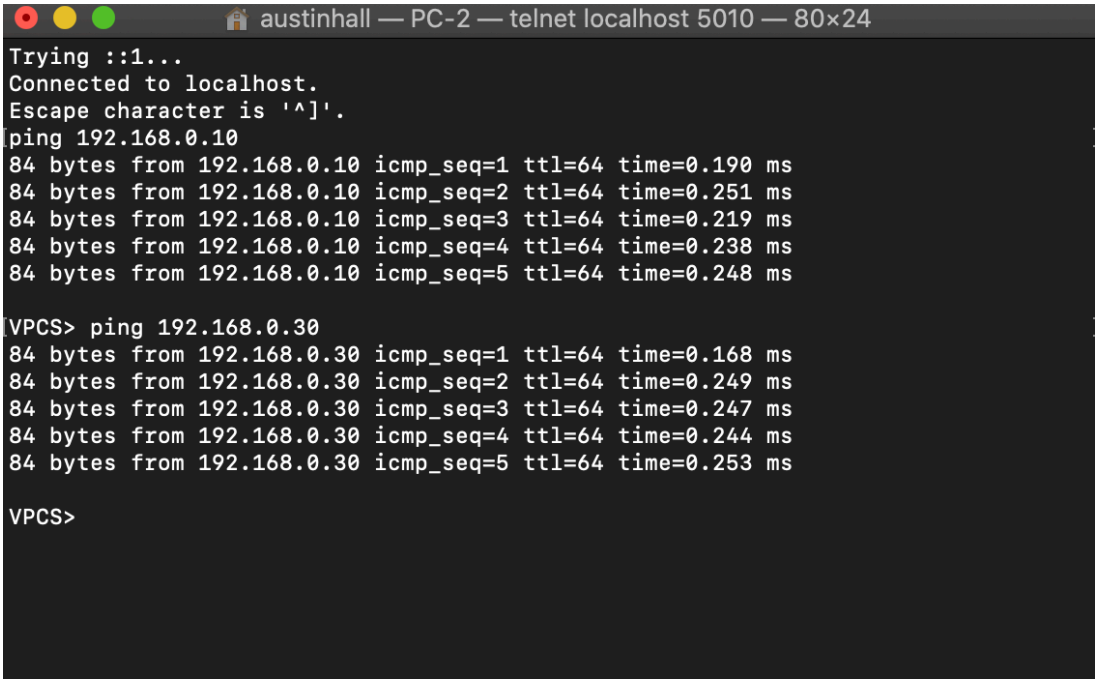
1	Application	The shared communications protocols and interface methods used by hosts in a communications network
2	Presentation	Responsible for keeping different applications data separate
3	Session	The session layer also coordinates connection and interaction between applications, establishes connections and manages data flow
4	Transport	Provides transparent transfer of data between end systems, or hosts, and is responsible for end-to-end error recovery and flow control
5	Network	Provides logical addressing, which routers use for path determination
6	Data Link	Transfers data between adjacent network nodes in a wide area network or between nodes on the same local area network segment
7	Physical	Moves bits between devices. Specifies voltage, wire speed, and pinout of cables

1.6 The OSI model today is used as a reference model and is not implemented on the Internet today. What current model is used for the Internet in the 21st century?
The current model used today is TCP/IP which has the four layers Application, Transport, Internet, and Link.

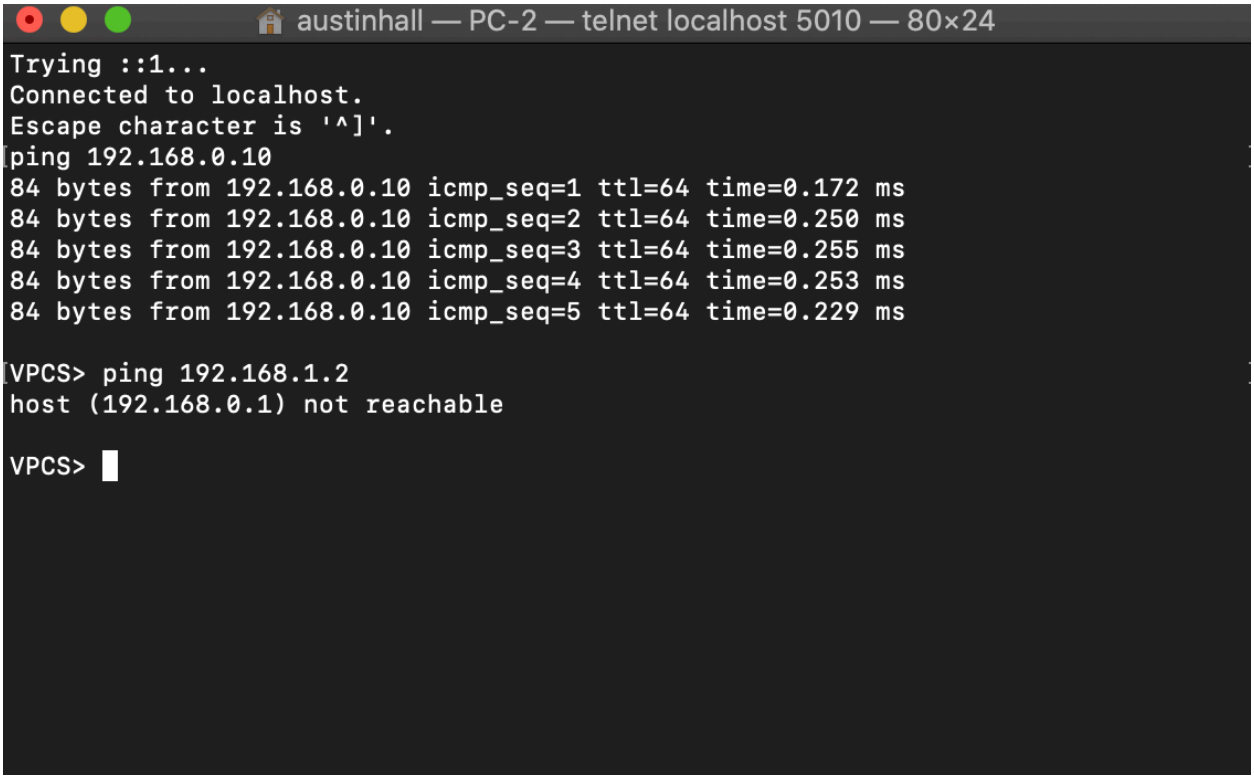
PART TWO:
1.What is the IP Address for PC-1, PC-3, and PC-5?
PC-1 IP: 192.168.0.10
PC-3 IP: 192.168.0.30
PC-5 IP: 192.168.1.2

2. What is the gateway for PC-2?
PC-2 Gateway: 192.168.0.1

3.
Now that you know how to display network pieces of information for your PC's, it's time to check network connectivity from one PC to the next. Using the ping command, from PC-2, Ping PC-1 and PC-3. Remember when Pinging you needed to use the PC's IP Address. Provide a screenshot of your results Pinging PC-1 and PC-3.



4.
Now that you know how to use the ping command, use PC-2 to ping PC-1and PC-5, and provide a screenshot of your results. Explain your screenshot results, and what you believed happened.



In this screenshot, PC-2 was able to ping PC-1 but when attempting to ping PC-5, there is a message stating that the host is not reachable. This leads me to believe that there isn't a path for ping to take to PC-5. I think this is because PC 1, 2, and 3 are only able to communicate within their switch while PC 4, 5, and 6 are only able to communicate within their switch, a router would be needed to communicate outside of this.

PART THREE

1. Once you have successfully launched Wireshark to capture packets, use PC-2 to ping PC-1 and PC-3, and provide an explanation of what you are seeing in Wireshark.

In Wireshark I am seeing 10 ICMP transmissions. 5 requests and 5 replies, plus the source and destination IPs which are from PC-2 and then PC-1 and PC-3.

2. List the protocols your PCs using to transmit data over the network?

They are using ICMP (and some ARP)

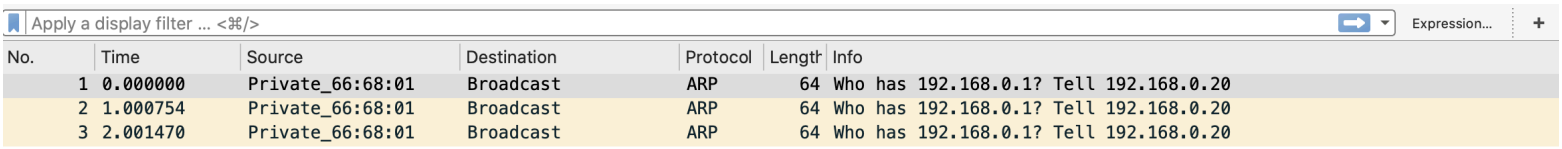
3. How many frames were transmitted over the wire?

There were a total of 20 ICMP frames transmitted and 7 ARP frames

4. How many bytes were transmitted over the wire?

98 bytes per ICMP frame and 64 bytes per ARP frame for a total of (20*98) = 1960 + (64*7) = 448 = 2408

5. Ping PC-6 from PC-2, and provide a screenshot of your packet capture and explain what happened



No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	Private_66:68:01	Broadcast	ARP	64	Who has 192.168.0.1? Tell 192.168.0.20
2	1.000754	Private_66:68:01	Broadcast	ARP	64	Who has 192.168.0.1? Tell 192.168.0.20
3	2.001470	Private_66:68:01	Broadcast	ARP	64	Who has 192.168.0.1? Tell 192.168.0.20

The PC-2 is attempting to resolve the MAC address of PC-6 which has the IP address of 192.158.1.3. But first, the ARP protocol has to make it onto the network, which begins at the switch. The protocol is sending a broadcast message trying to get the mac address of the ping target, but it isn't able to make it past the switch. The destination MAC address is never found.