**ASSIGNMENT 1**

**Network Systems and Administration**

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**Differences**

1. The OSI model has 7 layers while the TCP/IP layer has 4.

* The layers of the OSI model include: Application, Presentation, Session, Transport, Network, Data link and Physical.
* TCP/IP layers are: Application, Transport, Data Link and Network.

1. The TCP/IP layer is more common the OSI model.
2. OSI is a generic model that is based upon functionalities of each layer while the TCP/IP model is a protocol-oriented standard.
3. For OSI, the model came first and then the protocols in each layer were developed. In TCP/IP, the protocols were developed first and then the model.
4. The OSI transport layer ensures delivery of the packets while the TCP/IP transport layer does not assure whether packets are delivered.
5. The session and presentation layers of the OSI model are separate but in the case of TCP/IP model, they are not distinguishable.
6. The OSI network layer provides connection-oriented and connectionless services while the TCP/IP network layer provides only connectionless service.

**Similarities**

1. Both are based on a layered architecture.
2. Both models have physical layers to transport data.
3. Both have transport layers that provide end to end delivery of data.
4. Both have an application layer that provides services to end users.
5. Both models use protocols to define the rules and formats for communication between different layers and devices.
6. Both models allow manufacturers to make devices and network components that can coexist with devices of other manufacturers.
7. Both define standards for networking.
8. They both use encapsulation of data into a series of headers and trailers that contain information about the data being transmitted and how it should be handled by the network.
9. A single layer defines a particular functionality and set standards for that functionality only in both models.
10. In both, troubleshooting is simplified by dividing complex functions into simpler components of the layer.