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Network systems and administration homework 1

The differences between the OSI model and TCP/IP model include

1.The number of Layers - The OSI model consists of 7 layers, while the TCP/IP model has only 4 layers. This makes the OSI model more detailed and complex compared to the TCP/IP model.

2. Purpose - The OSI model was designed as a theoretical framework to understand how different devices communicate with each other in a network. On the other hand, the TCP/IP model was developed as a practical solution to implement the communication protocols in the Internet.

3. Adoption - While the OSI model is widely used as a teaching tool for understanding network communication, the TCP/IP model is the foundation for the modern-day Internet and is the de facto standard for all network communications.

4. Functions of each layer - Each layer in the OSI model has a specific function and is responsible for the delivery of data to the next layer. In contrast, the layers in the TCP/IP model are less strictly defined, and some protocols may be used in multiple layers.

5. Protocols - The OSI model is not directly tied to any specific protocols, while the TCP/IP model is closely tied to the TCP, IP, and other related protocols.

6. Connection-Oriented vs. Connectionless -The OSI model is based on a connection-oriented approach, where the data is sent in a sequential order, and the connection needs to be established before data transfer can begin. In contrast, the TCP/IP model is connectionless, which means that data can be sent in any order, and the connection is not required to be established before data transfer.

7. Encapsulation - In the OSI model, each layer encapsulates the data from the layer above it, adding its own header and footer. In the TCP/IP model, the data is encapsulated only once, with the TCP/IP headers being added to the packet at the network layer. In conclusion, the OSI and TCP/IP models are two different frameworks for understanding network communication, with the OSI model being more theoretical and the TCP/IP model being more practical and widely used in the real world.