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CLASS PREP

This class prep assignment will be **graded on effort**. Please do not leave any questions blank – if you are stuck, either formulate a question that you believe will help you get unstuck or write down some preliminary ideas.

1. How many layers in TCP/IP network model? What are they?

TCP/IP network model has 4 layers, which are Application layer, Transport layer, Internet layer and Network Access layer

2. What is the socket? Why do we need the socket programming?

A socket is an endpoint for communication between two machines over a network. It is defined by IP Address, Port Number and Protocol

Why we need socket programming:

- It allows two programs to communicate
- It provides an interface to send and receive data through the network
- Used to build network applications like chat servers, web servers, games

3. What is the protocol? Give an example of a protocol.

A protocol is a set of rules that define how data is formatted, transmitted, and received across a network. It ensures that devices can communicate and understand each other.

Example:

HTTP (HyperText Transfer Protocol): Defines how web browsers and web servers exchange

4. Have a comparison between TCP and UDP protocols

	TCP	UDP
Connection	Connection-oriented	Connectionless
Reliability	Reliable	Unreliable
Order of data	Ensure order	No guarantee
Speed	Slower	Faster
Use case	Web browsing, email, file transfer	Streaming, online gaming, VoIP