CSE 333 Section 8 - Client-Side Networking

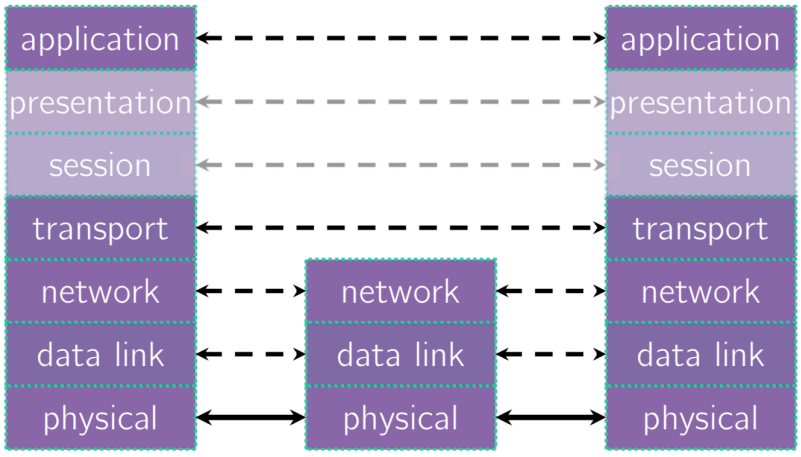
Welcome back to section! We're glad that you're here :)

Computer Networking Review

Exercise 1

a) What are the following protocols used for? (bonus: in which *layer* of the networking stack is it found?)

- DNS: Translating between IP addresses and host names. (Application Layer)
  - Domain Name Service
- IP: Routing packets across the Internet. (Network Layer)
  - Internet Protocol
- TCP: Reliable, stream-based networking on top of IP. (Transport Layer)
  - Transmission Control Protocol
- UDP: Unreliable, packet-based networking on top of IP. (Transport Layer)
  - User Datagram Protocol
- HTTP: Sending websites and data over the Internet. (Application Layer)
  - HyperText Transfer Protocol



b) Why would you want to use TCP over UDP?

TCP is reliable and has simpler semantics than UDP, so it's easier to use for a lot of applications. Think websites, ssh, messaging, most forms of data require reliable transmission.

c) Why would you want to use UDP over TCP?

Some applications can't tolerate delays from resending lost packets and/or don't mind losing a few packets, so UDP is a better choice for these. Think video streaming, games.

It all boils down to which matters most: reliability or speed (minimized latency)

Exercise 2

Fitting the Pieces Together. The following diagram depicts the basic skeleton of a C/C++ program for client-side networking, with arrows representing the flow of data between them. Fill in the names of the functions being called, and the arguments being passed. Then, for each arrow in the diagram, fill in the type and/or data that it represents.