CS 447-003 Networks and Data Communications
Spring 2024
Quiz #4 on February 1, 2023 (SOLUTIONS)

Your Last Three Digits: _____

(please do NOT write all of your student ID or your name)

Grade: _____

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(1)   What are "blocking functions"? Mention three socket APIs that are "blocking function".

Blocking functions are those <u>functions</u> (or APIs) <u>which stops/holds a calling process at a function</u> (does not let a calling process to proceed) <u>until its (i.e., functions') expected activity(s)/task(s) complete(s)/fail(s).</u>

blocking socket APIs: accept, connect, and recv

(2)   What is "client and server model"? Mention three (real) network applications that are based on "client and server model" (this particular question is for your homework).

The client-server model is a model (a design or a structure) for network applications where <u>a server always waits for requests from clients and clients make requests to a server.</u>

It is assumed that a server never makes requests to clients, but it (a server) responds each client's request with what each client requests (files, activities, and etc.).

(3)   What is the counter concept of "client and server model?

Peer-to-peer.

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(4) As we discussed in the classroom, it is possible for us to have more than one socket connections between a server and a client host. If each of the multiple socket connections is for a different client-side network process, how the client-side host distinguishes each socket connection to each network application process at the client side?

Port numbers (e.g., TCP ports)

(5) "accept" socket API duplicates a socket connection through another port at the server side as soon as a connection request from a client is established. Why (explain the purpose of doing it)?

It is for freeing the primary port for (multiple) other clients to establish a connection (i.e., to let other clients to contact a server process through the primary port).