

Week 3 Quiz Results for Austin Koske

❗ Answers will be shown after your last attempt

Score for this attempt: 32 out of 32

Submitted Sep 21 at 3:06pm

This attempt took 43 minutes.



Question 1

2 / 2 pts

2.7-2 TCP Sockets. Which of the following characteristics below are associated with a TCP socket? Check one or more that apply.

☒ a server can perform an `accept()` on this type of socket

☐ `socket(AF_INET, SOCK_DGRAM)` creates this type of socket

☒ when contacted, the server will create a new server-side socket to communicate with that client

☐ provides unreliable transfer of a group of bytes (a “datagram”), from client to server

☒ `socket(AF_INET, SOCK_STREAM)` creates this type of socket

☐ the application must explicitly specify the IP destination address and port number for each group of bytes written into a socket

☐ data from different clients can be received on the same socket

☒ provides reliable, in-order byte-stream transfer (a “pipe”), from client to server

Nice! This answer is correct.



Question 2

2 / 2 pts

3.1-2 Transport-layer functionality. True or False: The transport layer provides for host-to-host delivery service?

☐ True

☒ False

Nice! Your answer is correct.



Question 3

2 / 2 pts

2.4-02 Why does the local DNS server perform caching? What is the value of caching in the local DNS name server? Check all that apply.



DNS caching results in less load elsewhere in DNS, when the reply to a query is found in the local cache.



DNS caching provides prioritized access to the root servers, since the DNS request is from a local DNS cache.

☒ DNS caching provides for faster replies, if the reply to the query is found in the cache.

☐ DNS caching provides the ability to serve as authoritative name server for multiple organizations.

Nice! This answer is correct



Question 4

2 / 2 pts

2.7-3 Server reply (UDP). How does the networked application running on a server know the client IP address and the port number to reply to in response to a received datagram?



As the result of performing the `accept()` statement, the server has created a new socket that is bound to that specific client, and so sending into this new socket (without explicitly specifying the client IP address and port number) is sufficient to ensure that the sent data will be addressed to the correct client.



The application code at the server determines client IP address and port # from the initial segment sent by client, and must explicitly specify these values when sending into a socket back to that client.



The server will know the port number being used by the client since all services have a well-known port number.

☐ The server will query the DNS to learn the IP address of the client.

Nice. Your answer is correct.



Question 5

2 / 2 pts

2.1-1 The client-server paradigm. Which of the characteristics below are associated with a client-server approach to structuring network applications (as opposed to a P2P approach)?

☒ There is a server with a well-known server IP address.

☒ There is a server that is always on.

☐ There is *not* a server that is always on.

☐ A process requests service from those it contacts and will provide service to processes that contact it.

☒ HTTP uses this application structure.

Nice! This answer is correct.



Question 6

2 / 2 pts

2.1-4 TCP service. When an application uses a TCP socket, what transport services are provided to the application by TCP? Check all that apply.



Real-time delivery. The service will guarantee that data will be delivered to the receiver within a specified time bound.



Flow Control. The provided service will ensure that the sender does not send so fast as to overflow receiver buffers.



Congestion control. The service will control senders so that the senders do not collectively send more data than links in the network can handle.



Best effort service. The service will make a best effort to deliver data to the destination but makes no guarantees that any particular segment of data will actually get there.



Loss-free data transfer. The service will reliably transfer all data to the receiver, recovering from packets dropped in the network due to router buffer overflow.



Throughput guarantee. The socket can be configured to provide a minimum throughput guarantee between sender and receiver.

Nice! This answer is correct.



Question 7

2 / 2 pts

2.2-08 A detailed look at an HTTP reply. Suppose now the server sends the following HTTP response message the client:

```
HTTP/1.0 200 OK
```

```
Date: Wed, 09 Sep 2020 23:46:21 +0000
```

```
Server: Apache/2.2.3 (CentOS)
```

```
Last-Modified: Wed, 09 Sep 2020 23:51:41 +0000
```

ETag:17dc6-a5c-bf716880.

Content-Length: 418

Connection: Close

Content-type: image/html

Will the web server close the TCP connection after sending this message?

[Note: you can find more questions like this one [here](#) ➞

http://gaia.cs.umass.edu/kurose_ross/interactive/http-response.php .]



Yes, the server will close this connection because version 1.0 of HTTP is being used, and TCP connections do not stay open persistently.



No, the server will leave the connection open as a persistent HTTP connection.



There's not enough information in the response message to answer this question.



Yes, because the HTTP response indicated that only one object was requested in the HTTP GET request.

Nice! Your answer is correct.



Question 8

2 / 2 pts

2.4-04. The local DNS server. Check all of the phrases below that state a *true* property of a *local* DNS server.



The local DNS server is only contacted by a local host if that local host is unable to resolve a name via iterative or recursive queries into the DNS hierarchy.



The local DNS server record for a remote host is sometimes different from that of the authoritative server for that host.



The local DNS server holds hostname-to-IP translation records, but not other DNS records such as MX records.



The local DNS server can decrease the name-to-IP-address resolution time experienced by a querying local host over the case when a DNS is resolved via querying into the DNS hierarchy.

Nice! This answer is correct.



Question 9

2 / 2 pts

2.7-4 How many sockets? Suppose a Web server has *five* ongoing connections that use TCP receiver port 80, and assume there are no other TCP connections (open or being opened or closed) at that server. How many TCP sockets are in use at this server?

☐ 1

☒ 6

☐ 4

☐ 5

Nice! Your answer is correct.



Question 10

2 / 2 pts

2.2-09 Why Web Caching? Which of the following are advantages of using a web cache? Select one or more answers.



Overall, caching requires fewer devices/hosts to satisfy a web request, thus saving on server/cache costs.



Caching allows an origin server to more carefully track which clients are requesting and receiving which web objects.



Caching uses less bandwidth coming into an institutional network where the client is located, if the cache is also located in that institutional network.



Caching generally provides for a faster page load time at the client, if the web cache is in the client's institutional network, because the page is loaded from the nearby cache rather than from the distant server.

Nice! This answer is correct.



Question 11

2 / 2 pts

2.2-13 Cookies. What is the purpose of a cookie value in the HTTP GET request?



The cookie value indicates whether the user wants to use HTTP/1, HTTP/1.1, or HTTP/2 for this GET request.



The cookie value encodes a default set of preferences that the user has previously specified for this web site.

☐ The cookie value is an encoding of a user email address associated with the GET request.



The cookie value encodes the format of the reply preferred by the client in the response to this GET request.



The cookie value itself doesn't mean anything. It is just a value that was returned by a web server to this client during an earlier interaction.

Nice! This answer is correct.



Question 12

2 / 2 pts

2.7-1 UDP Sockets. Which of the following characteristics below are associated with a UDP socket? Check one or more that apply.

☐ provides reliable, in-order byte-stream transfer (a “pipe”), from client to server

☐ when contacted, the server will create a new server-side socket to communicate with that client

☒ `socket(AF_INET, SOCK_DGRAM)` creates this type of socket



the application must explicitly specify the IP destination address and port number for each group of bytes written into a socket

☒ data from different clients can be received on the same socket

☐ `socket(AF_INET, SOCK_STREAM)` creates this type of socket

☒ provides unreliable transfer of a groups of bytes (“a datagram”), from client to server

☐ a server can perform an `accept()` on this type of socket

Nice! This answer is correct.



Question 13

2 / 2 pts

2.4-01 DNS functions. Match the function of a server to a given type of DNS server in the DNS server hierarchy.

Provides authoritative hostname to IP mappings for organization’s named hosts.

Authoritative DNS server



Replies to DNS query by local host, by contacting other DNS servers to answer the query.

Local DNS server

Responsible for a domain (e.g., *.com, *.edu); knows how to contact authoritative name servers.

Top Level Domain (TLD) server

Highest level of the DNS hierarchy, knows how to reach servers responsible for a given domain (e.g., *.com, *.edu).

DNS root servers

Nice! This answer is correct.



Question 14

2 / 2 pts

2.2-02 HTTP cookies. What is an HTTP cookie used for?

- ☐ Like dessert, cookies are used at the end of a transaction, to indicate the end of the transaction.
- ☐ A cookie is a code used by a client to authenticate a person's identity to an HTTP server.
- ☐ A cookie is used to spoof client identity to an HTTP server.



A cookie is a code used by a server, carried on a client's HTTP request, to access information the server had earlier stored about an earlier interaction with this *person*. [Think about the distinction between a *browser* and a *person*.]



A cookie is a code used by a server, carried on a client's HTTP request, to access information the server had earlier stored about an earlier interaction with this Web *browser*. [Think about the distinction between a *browser* and a *person*.]

Nice! Your answer is correct.




Question 15

2 / 2 pts

2.2-05 A detailed look at an HTTP GET (1). Suppose a client is sending an HTTP GET request message to a web server, gaia.cs.umass.edu. Suppose the client-to-server HTTP GET message is the following:

```
GET /kurose_ross_sandbox/interactive/quotation2.htm HTTP/1.1
Host: gaia.cs.umass.edu
Accept: text/plain, text/html, text/xml, image/jpeg, image/gif, audio/mpeg, audio/mp4, video/wmv, video/mp4,
Accept-Language: en-us, en-gb;q=0.1, en;q=0.7, fr, fr-ch, da, de, fi
If-Modified-Since: Wed, 09 Sep 2020 16:06:01 -0700
User Agent: Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/535.11 (KHTML, like Gecko) Chrome/17.0.963.56
Safari/535.11
```

What version of HTTP is the client using?

[Note: you can find additional questions similar to this [here](http://gaia.cs.umass.edu/kurose_ross/interactive/http-get.php)  http://gaia.cs.umass.edu/kurose_ross/interactive/http-get.php .]

- ☐ 2
- ☐ 2.1
- ☐ 1
- ☒ 1.1

Nice! Your answer is correct.



Question 16

2 / 2 pts

2.2-01 “HTTP is stateless.” What do we mean when we say “HTTP is stateless”? In answering this question, assume that cookies are not used. Check all answers that apply.

☐ An HTTP client does not remember the identities of the servers with which it has interacted.



An HTTP *server* does not remember anything about what happened during earlier steps in interacting with this HTTP client.



An HTTP *client* does not remember anything about what happened during earlier steps in interacting with any HTTP server.

☐ We say this when an HTTP server is not operational.

☐ The HTTP protocol is not licensed in any country.

Nice! This answer is correct.

Quiz Score: 32 out of 32