Week 3 Summary Exercises

Due Oct 20 at 11:59pm **Points** 92 **Questions** 24
Available Oct 13 at 12am - Oct 20 at 11:59pm 8 days **Time Limit** 360 Minutes
Allowed Attempts 2

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	118 minutes	89.33 out of 92

Score for this attempt: **89.33** out of 92
Submitted Oct 20 at 12:01pm
This attempt took 118 minutes.

Question 1

2 / 2 pts

Convert the following units. Your answer should be a whole number with no text in the answer field:

64 B = _____ bits

Correct!

512

orrect Answer

512

Question 2

1.33 / 4 pts

For the following question, proper hexadecimal format is (0xYYYY) where Y will range in (0-9) or (A-F). Only proper formats will be accepted.

Suppose that we send a DNS request with ID #4779.

1. What is the little-endian representation (hexadecimal)?

   AB12

2. What is the big-endian representation (hexadecimal)?

   12AB

3. Which representation is required for network communication? (Enter "1" or "2" without quotes) 2

Answer 1:

'ou Answered AB12

orrect Answer 0xAB12

Answer 2:

'ou Answered 12AB

orrect Answer 0x12AB

Answer 3:

Correct! 2

Question 3

2 / 2 pts

In a peer-to-peer architecture, no one host is always on, but hosts may connect amongst themselves in an on-demand fashion.

Answer 1:

Correct! peer-to-peer

Question 4

2 / 2 pts

In the internet, an application-level protocol implemeting email service would most likely utilize TCP as its transport-layer protocol.

Answer 1:

Correct! TCP

Question 5

2 / 2 pts

Which of the following are application-layer protocols?

- [ ] Transmission Control Protocol (TCP)
- [ ] User Datagram Protocol (UDP)
- [x] Domain Name Service (DNS) — Correct!
- [x] File Transfer Protocol (FTP) — Correct!
- [x] Telnet — Correct!
- [ ] Internet Protocol (IP)
- [x] Post Office Protocol v3 (POP3) — Correct!
- [x] Secure Shell (SSH) — Correct!

Question 6

2 / 2 pts

In the internet, an application-level protocol implemeting live-streaming video would most likely utilize UDP as its transport-layer protocol.

Answer 1:

Correct! UDP

Question 7

2 / 2 pts

What *must* an application-level protocol specify? (Check all that apply)

Correct! ☑ Types of messages exchanged

Correct! ☑ Message sending rules

☐ Protocol authoring information

Correct! ☑ Message Semantics

Correct! ☑ Message Fields & Structure

Correct! ☑ Message response rules

☐ Protocol versioning info

Question 8

4 / 4 pts

A client's browser sends an HTTP request to a website. The website responds with a handshake and sets up a TCP connection. The connection setup takes 2 sec, including the RTT. The browser then sends the request for the website's index file. The index file references **4** additional images, which are to be requested/downloaded by the client's browser. How many requests (including the initial request) must be sent by the browser…

1. With non-persistent HTTP? 10 requests
2. With persistent HTTP? 6 requests

Answer 1:

Correct! 10

Answer 2:

Correct!

6

Question 9

4 / 4 pts

The IMAP e-mail protocol is called a Pull protocol.

Answer 1:

Correct!

Pull

Question 10

4 / 4 pts

Place the steps in the correct order for a complete e-mail communication.

1. [Select]
2. Alice's user agent sends message to her mail server; message placed in message queue.
3. [Select]
4. [Select]
5. [Select]
6. [Select]

Answer 1:

Correct!

Alice uses her user agent to compose message and sent to Bob's email address.

Answer 2:

Correct!

Alice's user agent sends message to her mail server; message placed in message queue.

Answer 3:

Correct!

Client side of SMTP opens TCP connection with Bob's mail server.

Answer 4:

Correct!

SMTP client sends Alice's message over the TCP connection.

Answer 5:

Correct!

Bob's mail server places the message in Bob's mailbox.

Answer 6:

Correct!

Bob uses his user agent to read the message.

Question 11

4 / 4 pts

If an HTTP server can send 2 objects over a single TCP connection, this is an example of persistent HTTP.

Answer 1:

Correct!

persistent

Question 12

4 / 4 pts

A client’s browser sends an HTTP request to a website. The website responds with a handshake and sets up a TCP connection. The connection setup takes 2 sec, including the RTT. The browser then sends the request for the website’s index file. The index file references **5** additional images, which are to be requested/downloaded by the client’s browser. How many requests (including the initial request) must be sent by the browser…

1. With non-persistent HTTP? 12 requests
2. With persistent HTTP? 7 requests

Answer 1:

Correct!

12

Answer 2:

Correct!

7

Question 13

4 / 4 pts

If an HTTP server requires 2 TCP connections to send 2 objects, this is an example of non-persistent HTTP.

Answer 1:

Correct!

non-persistent

Question 14

4 / 4 pts

The SMTP e-mail protocol is called a Push protocol.

Answer 1:

Correct!

Push

Question 15

4 / 4 pts

The reserved port for HTTP is port 80 .

Answer 1:

Correct!

80

Question 16

4 / 4 pts

A client's browser sends an HTTP request to a website. The website responds with a handshake and sets up a TCP connection. The connection setup takes 2 sec, including the RTT. The browser then sends the request for the website's index file. The index file references **8** additional images, which are to be requested/downloaded by the client's browser. How many requests (including the initial request) must be sent by the browser…

1. With non-persistent HTTP? 18 requests
2. With persistent HTTP? 10 requests

Answer 1:

Correct!

18

Answer 2:

Correct!

10

Question 17

4 / 4 pts

FTP is implemented over a pair of TCP connections.

Correct!

- (•) True
- ( ) False

Question 18

4 / 4 pts

Consider the following:

http://www.oregon.gov/SiteCollectionImages/branding/portal/bigfoot.png

- The Host Name is www.oregon.gov
- The Path Name is [Select]
- The URL is [Select]
- The TLD is [Select]

Answer 1:

Correct!

www.oregon.gov

Answer 2:

Correct!

/SiteCollectionImages/branding/portal/bigfoot.png

Answer 3:

Correct!

http://www.oregon.gov/SiteCollectionImages/branding/portal/bigfoot.png

Answer 4:

Correct!

GOV

Question 19

4 / 4 pts

FTP is implemented over a single HTTP connection.

- True

Correct!

- False

Question 20

4 / 4 pts

The POP3 e-mail protocol is called a Pull protocol.

Answer 1:

Correct!

Pull

Question 21

4 / 4 pts

A client-side piece of data which is used to keep track of transactions between a client and server is called a cookie.

Correct!

- (•) True
- ( ) False

Question 22

4 / 4 pts

An HTTP server maintains client states.

- ( ) True

Correct!

- (•) False

Question 23

8 / 8 pts

A client in a network with a proxy server requests a 7 MiB file from an internet server, fakeservername.com. The network's proxy server has a 2.11

Mbps connection to fakeservername.com. The average response time between the network's proxy server and the internet origin server (including RTT) is 1.5 seconds for a small "header-only" HTTP request/response. The file requested by the client is currently in the proxy server cache, but the proxy server relays the client's request to the internet server with "if-modified since".

Assume that transmissions between the proxy and the origin servers are stream (not packets) at full bandwidth, with negligible propagation delay.

How much time is saved if the file has not been modified? (Give answer in seconds, without units, rounded to two decimal places, so for an answer of 1.4233 seconds you would enter "1.42" without the quotes.)

Correct!

27.83

orrect Answer

27.83 margin of error +/- 0.02

Question 24

8 / 8 pts

A client's browser sends an HTTP request to a website. The website responds with a handshake and sets up a TCP connection. The connection setup takes 5.4 ms, including the RTT. The browser then sends the request for the website's index file. The index file references 2 additional images, which are to be requested/downloaded by the client's browser.

Assuming all other conditions are equal, how much longer would non-persistent HTTP take than persistent HTTP? (Give answer in milliseconds, without units, rounded to one decimal place. For an answer of 0.01005 seconds, you would enter "10.1" without the quotes.)

Correct!

10.8

orrect Answer

10.8 margin of error +/- 0.1

Quiz Score: **89.33** out of 92