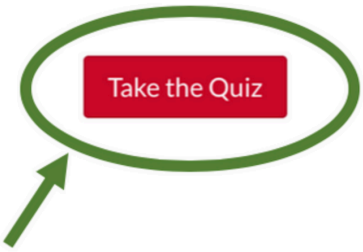
Module 07: Quiz

- Due Apr 4 at 11:59pm
- Points 20
- Questions 1
- Time Limit 15 Minutes

Instructions

DO NOT HIT THE BUTTON UNTIL YOU'RE READY TO TAKE THE QUIZ.



Purpose

This quiz is over the materials for Module 07. This quiz focuses on understanding how to decode and read network packets from Chapter 7 in your textbook.

Task

- You may only take this quiz once.
- Make sure you will not be interrupted so you can focus on completing the quiz.
- Make sure you have a reliable internet connection.
- You have 15 minutes to complete this quiz. Once you start the quiz, you cannot stop the timer.
  - **Pay attention to the time.** The time remaining is located on a timer on the right sidebar.
  - The quiz will *automatically* submit after your time is up or if it hits the due date (whichever comes first).
  - If you accidentally navigate away from the quiz but have time remaining, you should be able to pick up where you left off.
- For multiple select questions (e.g., the 'select all that apply' questions with checkboxes), Canvas auto-grading will reduce the overall score for incorrectly selected options. Unselected options will not alter the score (you won't gain or lose points for not selecting a statement or option, regardless of whether it is correct or incorrect). Be mindful when selecting options for this style of question.

- Open book/open notes/open internet - but answers must be your own. Do not copy and do not plagiarize.
- Don't hit the button until you're ready to take the quiz!

Grading Criteria

To complete this assignment, you will answer all of the questions for this assignment. Canvas will show your scores upon submission. If you have questions about what you missed, please contact your TA.

Solutions

You will be able to see your quiz responses after submitting the quiz. Canvas will show answers with feedback. Please note this feedback and any corrections; you will only see this screen once.

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	14 minutes	19 out of 20
LATEST	Attempt 2	14 minutes	19 out of 20
	Attempt 1	2 minutes	0 out of 20

ⓘ Correct answers are hidden.

Score for this quiz: 19 out of 20
Submitted Apr 4 at 4:41pm
This attempt took 14 minutes.

Answer Formatting - the same guidelines as previous assignments:

- Use the number keys; do not spell out numbers (e.g., use '1', not 'one').
- Binary and hexadecimal answers should not use the 0b and 0x prefixes on this assignment.
- Answers may be written using uppercase or lowercase letters, but be consistent throughout the submission.
- Use the standard formatting conventions for Ethernet and IP addresses used in class.
- Leading zeros:

- Include where necessary and customary (e.g., addresses, payload/padding).
- Avoid with decimal values (e.g., use '1', not '01').
- Otherwise, they can be omitted as long as it doesn't alter the value's interpretation (e.g., '00' and '0x0' can be simplified to '0'). Ensure consistency in omission (e.g., don't represent '0011' as '011').

- **Copy/Paste in Canvas:** Canvas may mark an answer as incorrect if it includes unintended characters like extra spaces or carriage returns at the end of your answer so be careful entering your responses. If you think Canvas counted something as incorrect due to unintended characters, contact your TA(s).

You may want to use **RapidTables (https://www.rapidtables.com/convert/number/hex-to-decimal.html)** , open in a different tab, to help you quickly convert bases.

PartialQuestion 1
19 / 20 pts

Given the raw hexadecimal data of a TCP segment shown in Figure 1, determine the values for each field in the TCP header and the payload, and enter the information into Table 1. If you encounter a field that does not contain any data, such as the absence of options or payload, indicate this by writing 'N/A' in the answer blank.

```
9fee 0050 7478 d7da be64 a762 8009

07ff 9172 0000 0101 080a f336 840f

ab4e 01fd 1703 0300 0663 7ad9 8d69

48
```

Figure 1: Raw hexadecimal representation of a TCP Segment.

Table 1: TCP Segment

Field	Information
1. Source Port (decimal)	40942

2. Destination Port (decimal)	80
3. Sequence Number (hex)	7478 d7da
4. Acknowledgement Number (hex)	be64 a762
5. Header Length (decimal, *in bytes*)	32
6. Flags (binary, no spaces)	001001
7. Window Size (decimal)	2047
8. Checksum (hex)	9172
9. Urgent Pointer (decimal)	0
10. Number of bytes of TCP options (decimal)	12
11. Options, if any (hex or N/A)	0101 080a f336 84(
12. Number of bytes of TCP payload (decimal)	11
13. Data/Full Payload, if any (hex or N/A)	1703 0300 0663 7a

Determine whether any of the TCP header flags bits are set. Enter '0' for not set and '1' for set into Table 2. Please note these flags are in alphabetical order, *not the order they appear in a TCP segment*.

Table 2: TCP Header Flags

Flag	State

14. Acknowledgement (ACK)	0
15. Finish (FIN)	1
16. Push (PSH)	1
17. Reset (RST)	0
18. Synchronization (SYN)	0
19. Urgent (URG)	0

Determine whether the packet above is a DNS packet. Enter 'Y' for yes and 'N' for no into Table 3.

Table 3: DNS

Field	Information
20. Is this a DNS packet?	N

Answer 1:
40942
Correct
Answer 2:
80
Correct
Answer 3:
7478 d7da
Correct
Answer 4:
be64 a762

Correct

Answer 5:

32

Correct

Answer 6:

001001

Correct

Answer 7:

2047

Correct

Answer 8:

9172

Correct

Answer 9:

0

Correct

Answer 10:

12

Correct

Answer 11:

0101 080a f336 840f ab4e 01fd

Answer 12:

11

Correct

Answer 13:

1703 0300 0663 7ad9 8d69 48

Correct

Answer 14:

0

Correct

Answer 15:

1

Correct

Answer 16:

1

Correct

Answer 17:

0

Correct

Answer 18:

0

Correct

Answer 19:

0

Correct

Answer 20:

N

Correct

Quiz Score: 19 out of 20