CS241#39 "TCP UDP and DNS Review" (aka Quiz 5 Review)

0. Identify the missing pieces to complete Peterson's N=2 solution to the Critical Section Problem.

raise my flag

WHAT IS MISSING HERE?

// Do Critical Section stuff

lower my flag

1. Identify the missing pieces to complete Dekker’s N=2 solution to the Critical Section Problem.

raise my flag

while your flag is raised :

if it's your turn to win :

WHAT IS MISSING HERE?

// Do Critical Section stuff

set your turn to win

WHAT IS MISSING HERE?

2. What is special about listening on port 1000 vs port 2000?

3. What is difference between IPv4 and IPv6?

4. When and why would you use ntohs?

5a. If a host address is 32 bits which IP scheme am I most likely using?

5b. If a host address is 128 bits which IP scheme am I most likely using?

6. Which common network protocol is packet based and may not successfully deliver the data?

7. Which common protocol is stream-based and will resend data if packets are lost?

8. Put the following in the correct order: ACK , SYN, ACK-SYN handshake?

9. Which one of the following is NOT a feature of TCP?

Packet re-ordering

Flow control

Packet re-tranmission

Simple error detection

Encryption

10. What protocol uses sequence numbers?

What is their initial value? And why?

11. What are the minimum network calls are required to build a TCP server? What is their correct order?

12. What are the minimum network calls are required to build a TCP client? What is their correct order?

13. When would you call bind when creating a TCP client?

14. What is the purpose of each of the following?

socket

bind

listen

accept

15. Which of the above calls can block, waiting for a new client to connect?

16. What is DNS? What does it do for you? Which of the CS241 network calls will use it for you?

17. For getaddrinfo, how do you specify a server socket?

18. Why may getaddrinfo generate network packets?

19. Which network call specifies the size of the allowed backlog?

20. Which network calls returns a new filedescriptor?

21. When are passive sockets used?

22. When is epoll a better choice than select? When is select a better choice than epoll?

23. Will write(fd, data, 5000) always send 5000 bytes of data? When can it fail?

24. What are the minimum network calls required to send a UDP packet?

25. What are the minimum network calls required to receive a UDP packet?