Computer Networks

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Chapter 1:

2ish predominant internet models

1. OSI: Open System Interconnection
2. Internet Protocol Stack(Or just Protocol) THIS MODEL WILL BE ON MIDTERM OR FINAL model below and in the book

|  |
| --- |
| Name |
|  |

Network of network? : Internet

How do they communicate with each other? : Protocols

What is a protocol?

* Defines the format and the order of the messages exchanged between two or more entities, as well as the actions taken on the transmission and/or receiver of a message or other event

Homework 1

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Review for Python:

How do we comment? “# this is comment”

Or “”” Anything in between 3 quotations“””

Python does not use {} or ;

Python uses indentation for scope, what is scope? Defines different levels

Tabs are bad in python ONLY use spaces, PEP 8 says use 4 spaces

Use python interpreter

Functions can return : Lists, Dictionaries, Function, etc.

How to slice in python a[3:], a[:3], a[1:2]

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Caching will be asked in lab 3

Chapter 2 : Applications

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tar -czvf file\_name\_target\_name.tar.gz file1 file 2

-tvf file.tar.gz

T: list contents

V:

4/30/2024 MIDTERM REVIEW

MIDTERM TOMORROW

1. What layer is DNS: cache
2. What layer is email:
3. What layer is HTTP:
4. What does each line in HTTP end in:
5. What is a sequence of characters 2 chooses \r\n\r\n
6. What layer is UDP: Transport
7. What layer is TCP: Transport
8. IP layer what protocol gets us to the process: Transport
9. What is layer 7 in OSI model
10. What layers are condensed into the 5 layer
11. What is the tradition HTTP port: 80
12. What is the traditional DNS port = 53
13. What applications might you want to use UDP for:
14. TCP cubic method app approaches the segment transfer threshold that causes a lost faster than RENO
15. What command line tool can I use to resolve a domain name to an IP address
16. Ping will
17. What command line tool for registry: WHOIS
18. What command line can I use to record network traffic:
19. TCP sequence number \_\_\_\_
20. TCP port on a server listing should be \_\_\_\_
21. The TCP destination port for a server should be \_\_\_
22. The TCP source port for a client should be\_\_\_
23. The TCP destination port for a client should be \_\_\_\_\_
24. Point of DNS is to resolve domain name is an IP address:
25. The CDNS IP address a domain resolves may b
26. The API queries in the labs are RESTful: T
27. API queries created for Lab3 are RESTFUL
28. HTTP can be in the pay load of the payload section
29. TCP and UCP are said to be reliable
30. IP is reliable: F
31. Congestion avoidance and flow control are the exact same thing: T
32. HTTP is in plain text: T
33. SMTP is in plain text:
34. AIMD converges on being fair: T
35. A TCP server socket code will use the listen and bind functions:
36. TCP client socket code will use the listen and bind functions:

Draw lab everything for full credit

42: Draw either slow start or fast retransmission do not draw both and lab which one we drew

41: Draw the TCP 3-way handshake with sequence and acknowledgement numbers

1. What layer is DNS = **Application layer**
2. What layer is email = **Application layer**
3. What layer is HTTP = **Application layer**
4. What does each line in an HTTP request end in = **\r\n**
5. What layer is UDP = **Transport layer**
6. What layer is TCP = **Transport layer**
7. What layer gets the HTTP process = **Transport**
8. What is layer 7 in the OSI model = **Application layer**
9. What layers from the OSI model are condensed in the 5 model application layer = **Session, Presentation, Application**
10. What is the traditional HTTP port = **80**
11. What is the traditional DNS port = **53**
12. Which applications might want to use UDP port = **Real-time applications, such as video streaming or online gaming**
13. TCP’s cubic method approaches the segment transfer threshold that causes a lost event faster than RENO? **True**
14. What command-line tool can be used to resolve a domain name to an IP address = **nslookup**
15. Command-line tool to see if a host is active = **ping**
16. Command-line tool to see registered entity = **whois**
17. Command-line tool to record network traffic = **tcpdump**
18. TCP sequence number = **A unique number assigned to each segment of data sent by a TCP connection**
19. TCP port on a server listings should be = **Well-known ports**
20. The TCP destination port for a server should be = **The port the server application is listening on**
21. The TCP source port for a client should be = **A random port assigned by the client's operating system**
22. TCP destination port for a client should be = **The well-known port the client wants to communicate with on the server**
23. Point of DNS is to resolve domain name to IP address T/F = **True**
24. The IP address a domain resolves to may be different between east and west coasts = **True**
25. The API queries in the labs are RESTful = **True**
26. API queries created for lab 3 were not RESTful T/F = **False**
27. TCP and UDP are said to be reliable T/F = **False**
28. HTTP servers can only be hosted on port 80 = **False**
29. HTTP can be in the payload of the TCP data section T/F = **True**
30. TCP is reliable T/F = **True**
31. IP is reliable = **False**
32. Congestion avoidance and flow control are the exact same thing T/F = **False**
33. HTTP is in plain text T/F = **True**
34. SMTP is in plain text T/F = **True**
35. AIMD stands for = **True**
36. A TCP server socket code will use the listen and bind functions T/F = **True**
37. A TCP client socket code will use the listen and bind functions T/F = **False**