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Answer 1 :

Port Number is used to separate out the transport layer segments between given 2 connections.

Packet header (**Transport header**) will contain those parameters.

Answer 2 :

If every connection starts from sequence number of , then there is a possibility that segments from different connections are getting mixed up, this will create a problem. Now let's assume we established a TCP connection and sent a segment containing bytes 1 through 15. There was a problem with internetwork that caused this segment to be delayed and finally the connection itself to be terminated and then we started up a new connection nd again used a starting sequence number of 1. Now ,a s soon as this new connection was started the old segment with bytes 1 to 15 showed upand the other devices would erroneously think those bytes were part of the new TCP connection.

Also there is a problem with a predictable initial sequence number such as starting at 1 every time is that predictability presents a vulnerability. Also problem as it will go into the forbidden region of the old one connection.

Answer 3 :

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Therefore, d=(1+8+3+19+3+0+0+4+2)mod 10

= 40 mod 10

Therefore, d= 0

a.

for A : 2*d=0

for B : 3*d=0

b.

for A : 5*d=0

for B : 6*d=0

c.

for A : 15*d=0

for B : 16*d=0

Answer 4:

Tc =0

Therefore coordinates of the forbidden region are :

(0,0) , (10,0) , (10,10), (25,10), (15,0)

Answer 5:

In 3 way handshake first host A->host B SYN sent then host B sent SYN/ACK to host A and then host A sends ACK to host B.

Now, the initiator of the original proposal must acknowledge the response. Consider the example, assuming no messages are lost, army #2 will get the acknowledgement, but the commander of army #1 will now hesitate. After all, he does not know if his acknowledgement got through, and if it did not, he knows that army #2 will not attack.

Here we use analogy of army #1 for TCP client and army #2 for TCP server

Answer 6:

a. False, because the rate can also depends on the buffer capacity of the transport buffer pool.

b. True , because for stop-and-wait, we only need 2 unique sequence numbers since there can be only one segment at any given point in the time. So, one bit sequence number is sufficient.

c. False, because in sliding window protocols, sender can sends more than one frame to the receiver.

d. False, because the time stamping is not asn effective solution as the time synchronization across routers all over the globe is not practically feasible.

e. False, because MIAD does not control the congestion as the AIMD pushes an arbitary state point towards optimal point in the phase plot where as MIAD pushes it away., where towards a point means where the entire capacity is occupied by exactly one of the two parties.