Tutorial 6

ELEC3506/9506 – Communication Networks

1. In a case where reliability is not of importance, UDP would make a good transport protocol. Give examples of specific cases.

2. Are both UDP and IP unreliable to the same degree? Why or why not?

3. Do port addresses need to be unique? Why or why not? Why are port addresses shorter than IP addresses?

4. Distinguish between network layer and transport layer services.

5. Distinguish between an IP address, a Port address and a Socket address

6. Distinguish between connection oriented and connection-less services.

7. Distinguish between reliable and unreliable services.

8. What are the three stages of connection oriented transmission?

9. Describe the three-way handshake used for TCP connection establishment.

10. State three error control protocols for noisy channels (as discussed in the lecture).

11. Why is Stop-And-Wait ARQ inefficient?

12. What are the advantages and disadvantages of Go-Back-N ARQ?

13. How does Selective Repeat ARQ address the deficiencies of Go-Back-N ARQ?

14. What is Flow Control?

15. Distinguish between the flow control provided by the data link layer and the transport layer

16. How does TCP provide error control?

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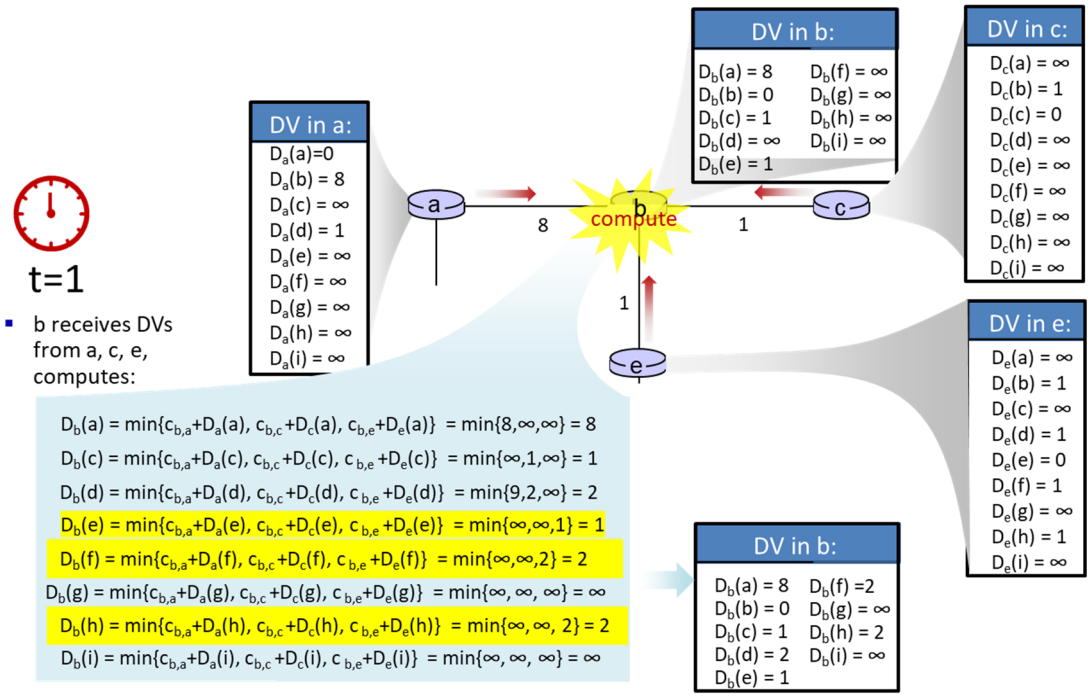
18. What is congestion control and how does TCP provides congestion control?

19. Discuss the three phases of TCP congestion control policy.

20. Consider now a IP data frame size of 2400 bytes to be fragmented into 3 section to support TCP networks. What will be the value of Fragmentation Offset Flag for the 3 sections?

21. Consider the example in lecture 6, where the one highlighted in yellow is the portion of the DV table of b that was not sent to e. Please list the portion of the DV table of b not sent to a. Explain why.



22. Consider TCP received header, read as E667(16) and D555(16) with a checksum field of 4441(16). Will the receiver discard or accept the TCP frame?

23. How does TCP flow control protocol relate to those three basic ARQ protocols?

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