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CS 118

Dis 1A

Homework 6

10.

|  |  |
| --- | --- |
| Destination Address Range | Link Interface |
| 11100000 00 | 0 |
| 11100000 01000000 | 1 |
| 1110000 | 2 |
| otherwise | 3 |

13. Subnet 1 – 223.1.17.0/26

Subnet 2 – 223.1.17.128/25

Subnet 3 – 223.1.17.192/28

19. If the datagram is 2400 bytes and MTU is 700 bytes, then there are 4 fragments accounting for headers too. First three fragments have length 700 bytes and flag = 1. The fourth fragment has length 360 bytes and flag = 0. All four fragments have ID 422. Offsets are 0, 85, 170, and 255.

21. A. Interfaces in home network: 192.168.1.1

192.168.1.2

192.168.1.3

192.168.1.4 (router)

B.

|  |  |
| --- | --- |
| WAN | LAN |
| 24.34.112.235, 5001 | 192.168.1.1, 3345 |
| 24.34.112.235, 5002 | 192.168.1.1, 3346 |
| 24.34.112.235, 5003 | 192.168.1.2, 3345 |
| 24.34.112.235, 5004 | 192.168.1.2, 3346 |
| 24.34.112.235, 5005 | 192.168.1.3, 3345 |
| 24.34.112.235, 5006 | 192.168.1.3, 3346 |

26.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Step | N’ | D(t),p(t) | D(u),p(v) | D(v),p(v) | D(w),p(w) | D(y),p(y) | D(z),p(z) |
| 0 | x | ∞ | ∞ | 3,x | 6,x | 6,x | 8,x |
| 1 | xv | 7,v | 6,v | 3,x | 6,x | 6,x | 8,x |
| 2 | xvu | 7,v | 6,v | 3,x | 6,x | 6,x | 8,x |
| 3 | xvuw | 7,v | 6,v | 3,x | 6,x | 6,x | 8,x |
| 4 | xvuwy | 7,v | 6,v | 3,x | 6,x | 6,x | 8,x |
| 5 | xvuwyt | 7,v | 6,v | 3,x | 6,x | 6,x | 8,x |
| 6 | xvuwytz | 7,v | 6,v | 3,x | 6,x | 6,x | 8,x |