CSC457 Assignment 4: Question 1 - 3

Question 1

(a)
Host A: None of the networks
Host B: Network 2
Host C: Network 3
Host D: None of the networks
Host E: None of the networks

(b)
Network 218.1.2.0/24:
IP-Source: 218.1.2.2
IP-Destination: 218.1.3.2
Frame-Source: 1A-BD-F9-CD-06-00
Frame-Destination: 1A-23-F9-CD-06-9B

Network 218.1.4.0/24:
IP-Source: 218.1.2.2
IP-Destination: 218.1.3.2
Frame-Source: 2A-C3-F1-3D-16-A2
Frame-Destination: 22-94-B3-FF-F6-2C

Network 218.1.5.0/24:
IP-Source: 218.1.2.2
IP-Destination: 218.1.3.2
Frame-Source: 42-94-B3-FF-F6-2C
Frame-Destination: 13-24-B3-FF-F6-2C

Network 218.1.3.0/24:
IP-Source: 218.1.2.2
IP-Destination: 218.1.3.2
Frame-Source: B1-23-F9-CD-06-00
Frame-Destination: 74-23-F9-CD-06-12

Question 2

Step	D1	D2	D3	D4	D5	D6	D7	D8	P
0	**0**	8	**2**	5	4	∞	∞	∞	{1}
1		**3**		5	4	∞	10	4	{1,3}
2				**4**	4	∞	10	4	{1,2,3}
3					**4**	7	8	4	{1,2,3,4}
4						7	8	**4**	{1,2,3,4,5}
5						6	**5**		{1,2,3,4,5,8}
6						**6**			{1,2,3,4,5,7,8}
7									{1,2,3,4,5,6,7,8}

Question 3

(a)

Step	D2	D3
0	∞	∞
1	85	6
2	11	6
3	11	6

(b)

Step	D2	D3
0	11	6
1	1	6
2	1	6

(c)

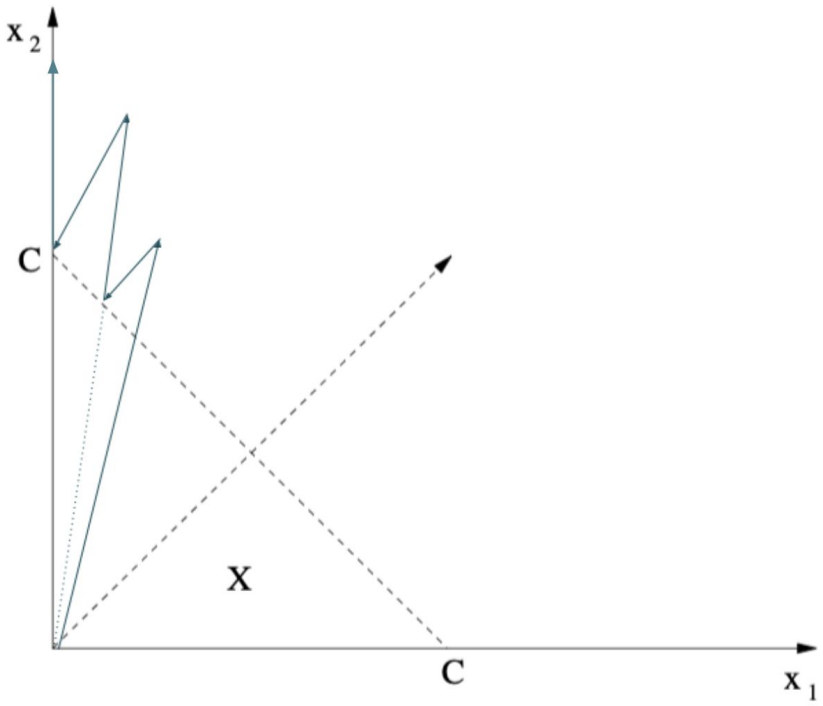
Step	D2	D3
0	11	6
1	11	16
2	21	16
3	21	26
4	31	26
5	31	36
6	41	36

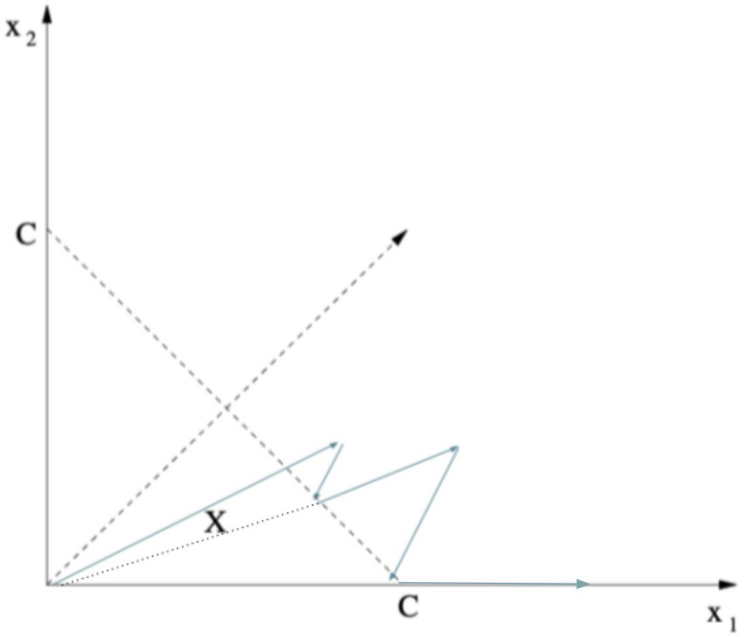
CSC457 Assignment 5: Question 4 - 7

Question 4

When we only use a two-way handshake what happens is a delayed connection requisition as well as data from an older connection that has been closed will lead to the scenario where the transport layer excretes improper data to the application layer.

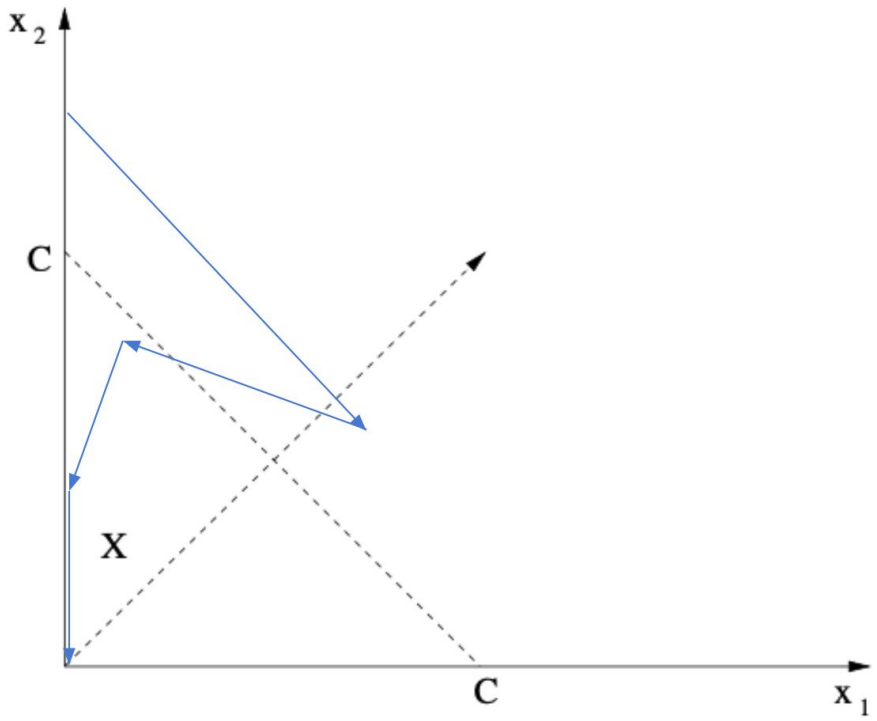
Question 5



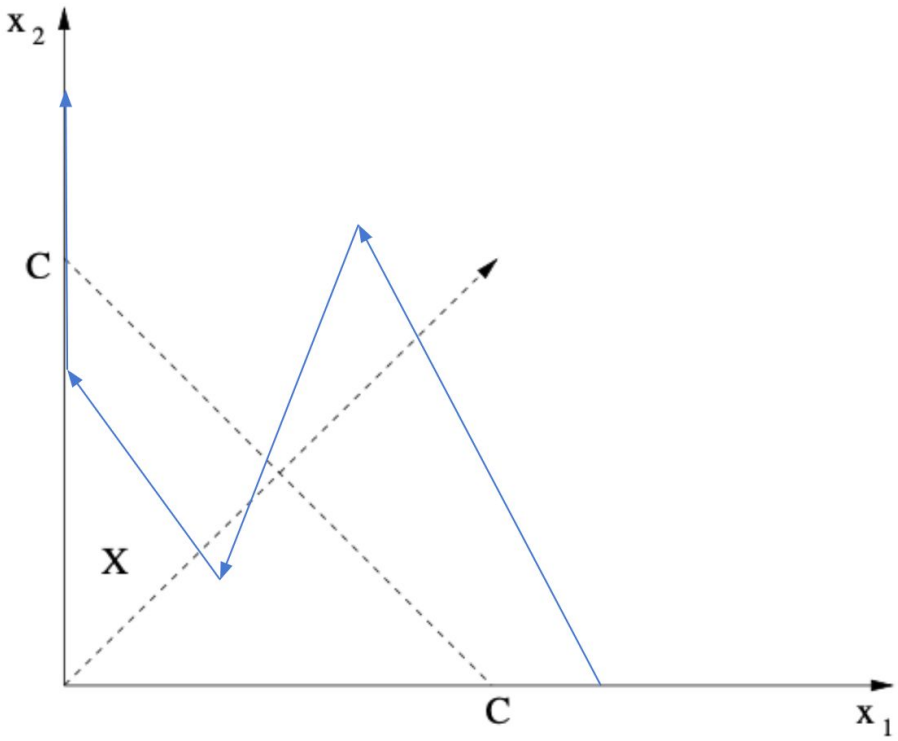


Question 6

(a)



(b)



Question 7

For buffer (C, B)

$$L(r_1 + r_2) \leq C$$
$$L(\beta_1 + \beta_2) \leq B$$

For buffer (C_0, B_1)

$$L(r_a + r_b) \leq Lr_1$$
$$L(\beta_a + \beta_b) \leq B_1$$

For buffer (C_0, B_2)

$$L(r_c + r_d) \leq Lr_2$$
$$L(\beta_d + \beta_c) \leq B_2$$

$r_2 = 0.7$
$\beta_2 = 2$
$r_b = 0.3$
$\beta_b = 6$
$r_c = 0.6$
$\beta_c = 3$