

Name = M. Junaid  
 ID = 14608  
 Section = "A"  
 Semester = 4th  
 Date = 24/06/2020

Question = 1

Solution

$$\Rightarrow 101.10.11 \text{ x/ID}_{4+5}$$

$$\Rightarrow 1+4+6+0+8 = 19$$

$$\Rightarrow \text{ID}_{4+5} = 6+0 = 6$$

$$\Rightarrow 101.10.11 \cdot \frac{19}{6/10^6}$$

$$\Rightarrow 101.10.11 \cdot 10$$

Now find the first address

$$\Rightarrow 00000101.00000010.00000011.00000010$$

Now by setting the 39-28 rightmost bit is 0s. Then we get

$$\Rightarrow 00000101.00000010.00000011.00000010$$

$$\Rightarrow 00000101.00000010.00000011.00000000$$

Now for last address.

$$\Rightarrow 00000101.00000010.00000011.00000010$$

$$\Rightarrow 00000101.00000010.00000011.00001111$$

Answer = 2

Step 1: Convert into binary.

2	14608
2	7304 - 0
2	3652 - 0
2	1826 - 0
2	913 - 0
2	456 - 1
2	228 - 0
2	114 - 0
2	57 - 0
2	28 - 1
2	14 - 0
2	7 - 0
2	3 - 1
2	1 - 1

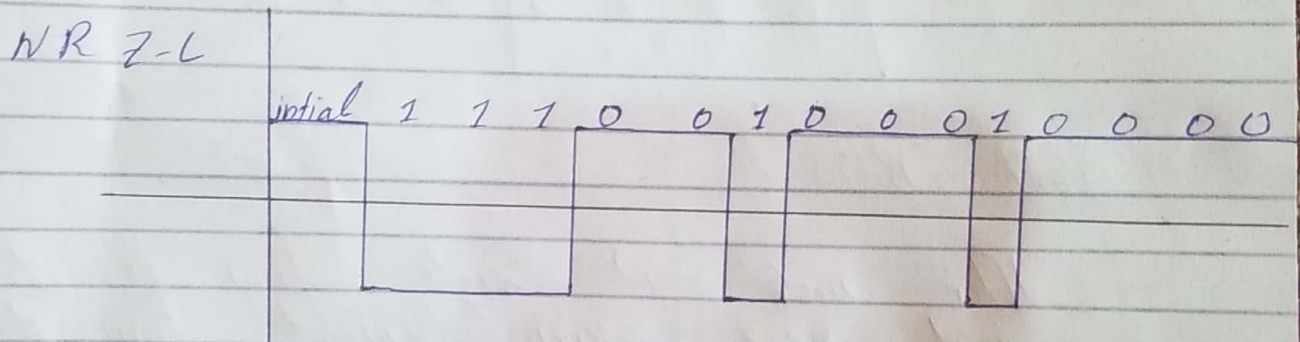
Binary  $\Rightarrow 11100100010000$



Step 2:

Now Draw the NRZ-L Diagram.

$\Rightarrow$  11100100010000



Step 3:

The last signal level has positive.

Answer = (3)

Part "A"

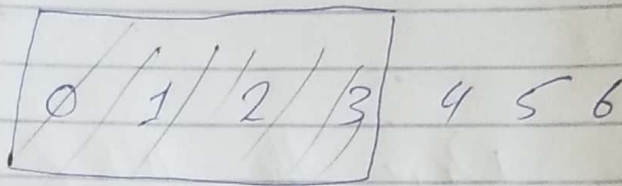
ID = 14608

ID is  $> 5$  then  $8/2 = 4$

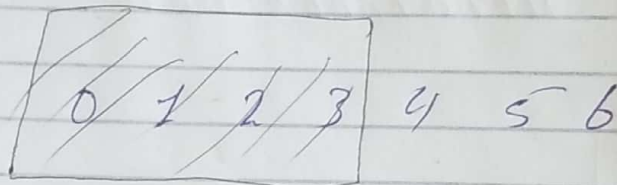
So the window size is 4.

So before node D sends any frames.

Sender =>



Receiver =>

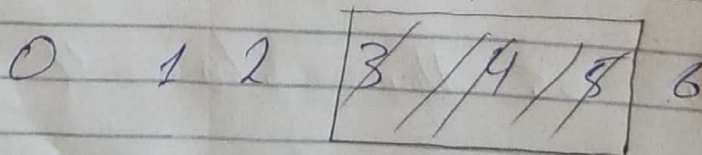


Port "B"

After node "A" Sends frames 0, 1, 2  
 and receive acknowledgement from B  
 for 0 and 1.  
 (Suppose B receive all three frames)

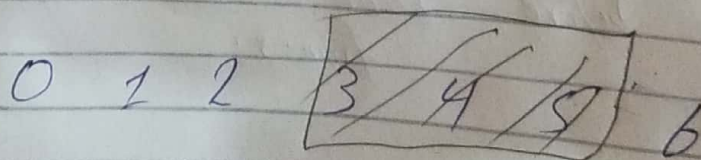
Sender =>

A has shrunk its window  
 as it has transmitted three  
 PDUS but has received ack for  
 2 PDUS hence it keeping  
 copy of and PDUS.



Acknowledgement receive for 2 bit.

Receiver:  
2





Receiver has received all data hence the window remains in 4 bit size.

Part 'C'

After a send frames 3, 4 and 5 and B acknowledgement 4 and the ack is received by sender.

Sender =>

0 1 2 3 4 / 5 6 / 7 / 8 9

Receiver =>

Acknowledgement received for 2 bit.

0 1 2 3 4 5 6 / 7 / 8 9