

14892

(2)

Group "C"

600 this group each
Customer needs 16 addresses

This means that 6 (log₂)
bits are needed for each

Prefix length is then $32 - 6 = 26$
Addresses are

$$1^{st} = 160.21.17.6/28$$

$$2^{nd} = 160.21.17.1/28$$

$$3^{rd} = 160.21.17.6/28$$

$$\text{total} = 160 \quad 16 \times 24 = 1024$$

Available Addresses

11.592

⑦

Group ①

For this group each customer
needs 32 addresses this

means that (less 32) bits

are needed to each host

Prefix length is then $32 - 6 = 26$

Addresses are

1st = 160.21.17.6/27

2nd = 160.21.17.1/27

3rd = 160.21.17.6/27

Total = $16 \times 84 = 1024$ addresses

Have 14592 (8)

Q4

ID = 14592

Group (a)

for this group each

customer needs 64 addresses this means that 6 (log₂ 64) bits

are needed to each host

the Prefix will be length 6

then $32 - 6 = 26$ the addresses are

$$1^{st} = 160.21.17.6/26$$

$$2^{nd} = 160.21.17.1/26$$

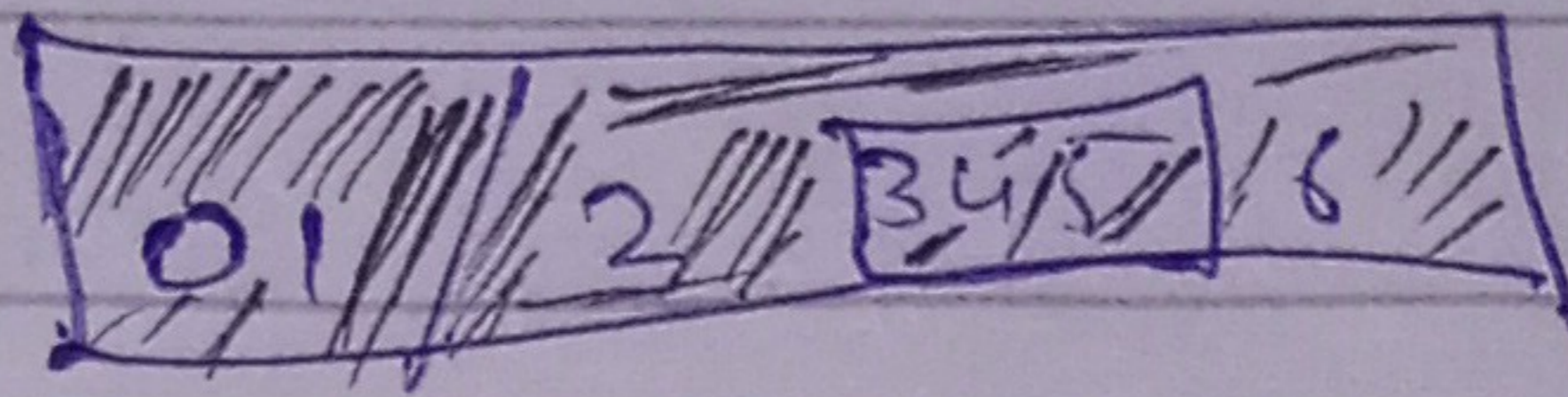
$$3^{rd} = 160.21.17.6/26$$

$$\text{total} = 16 \times 64 = 1024 \text{ available addresses.}$$

14592

(5)

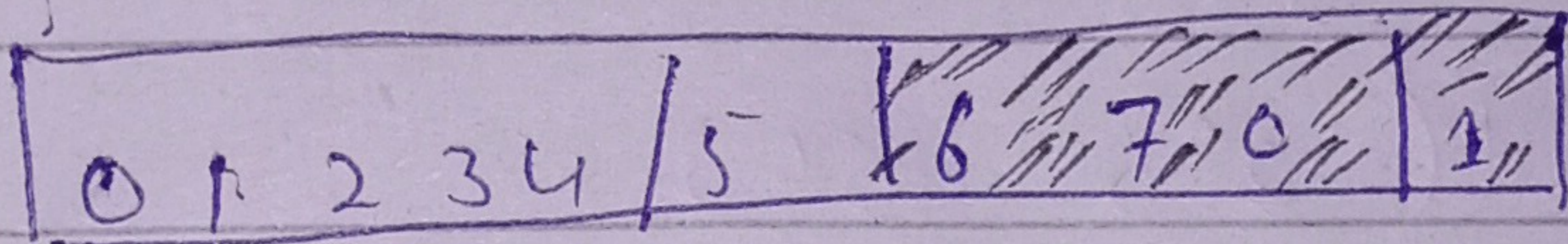
Receiver:



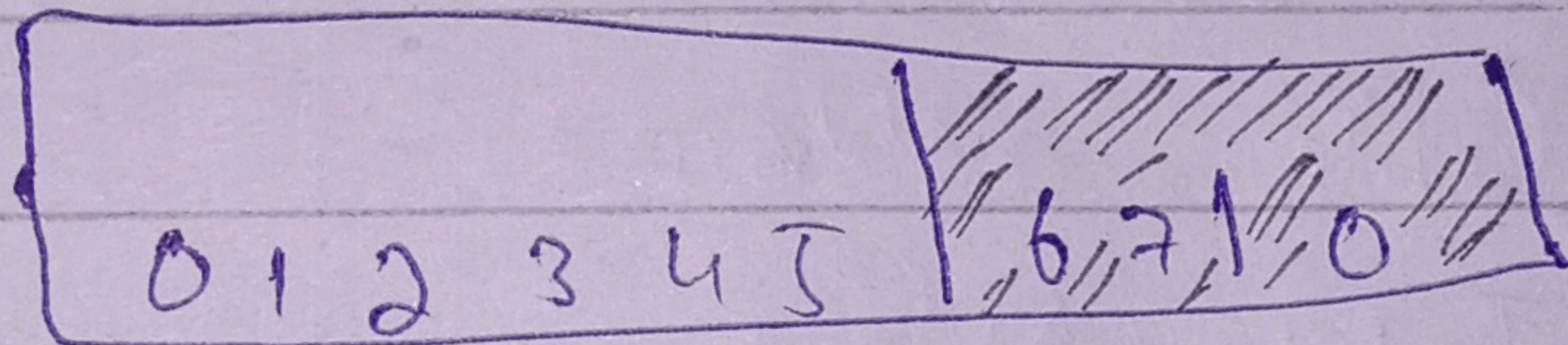
Receiver has received all data

The window remains in 4 bit size

(c) Sender:



Receiver:



An acknowledgment received for 3 bit

New window size

$$IP = 14592$$

By formula $IP \text{ last } / 2$

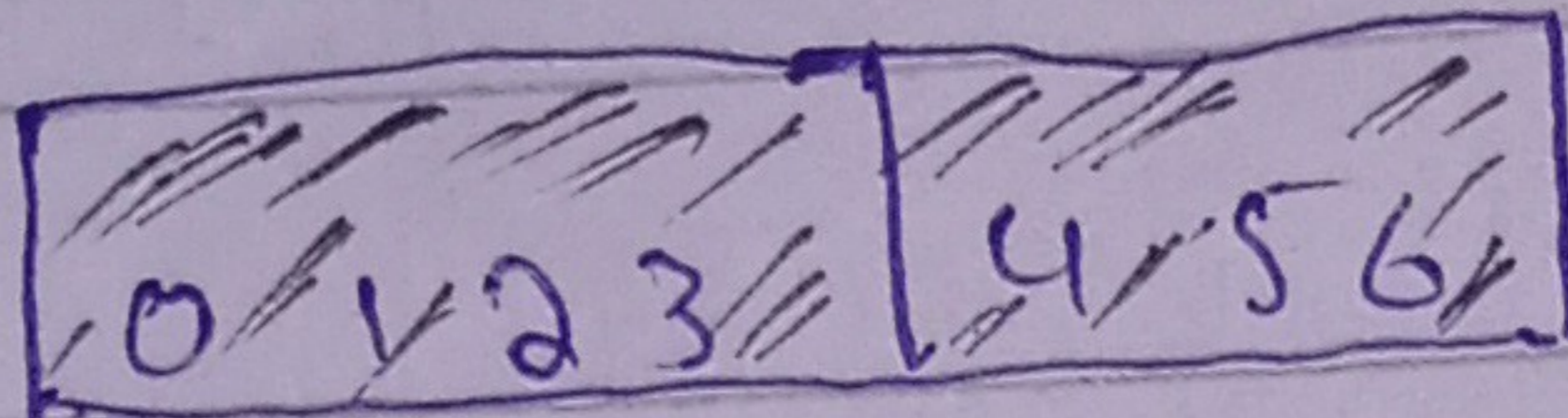
$$= 2 / 2 = 0$$

$$\text{window size} = 0$$

Q3

(a) Before A send any frames

Sender:

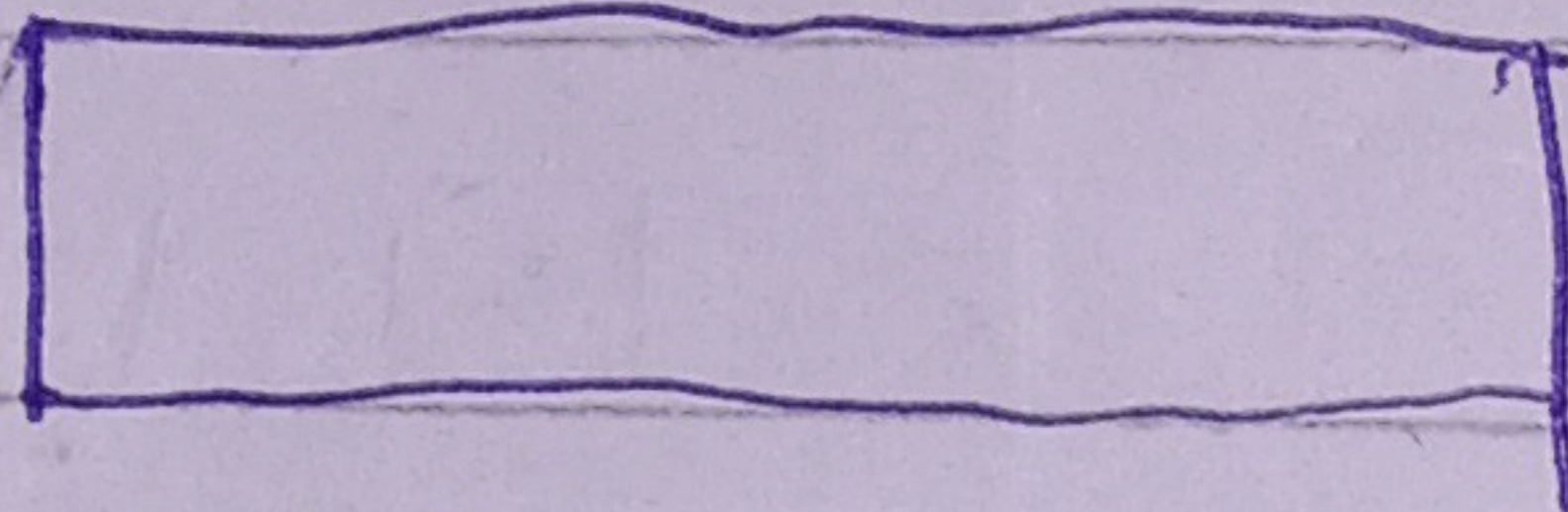


window of PDU that may be transmitted 4 bit window

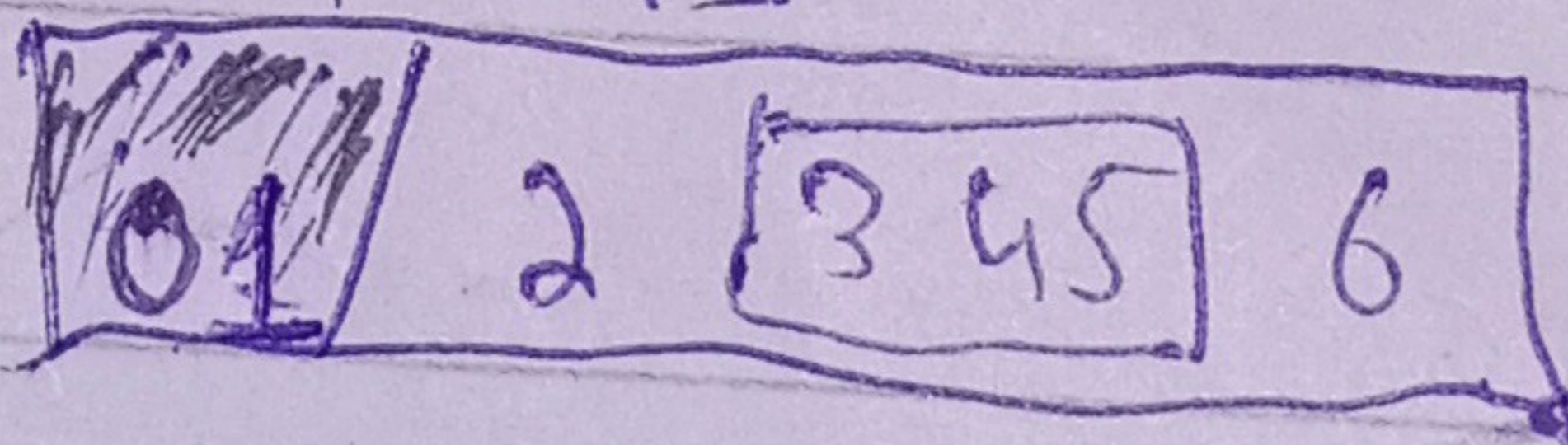
Receiver:



(b) Sender:



A has shrunk its window as it has transmitted three PDUs but has received ack for 2 PDUs hence it is

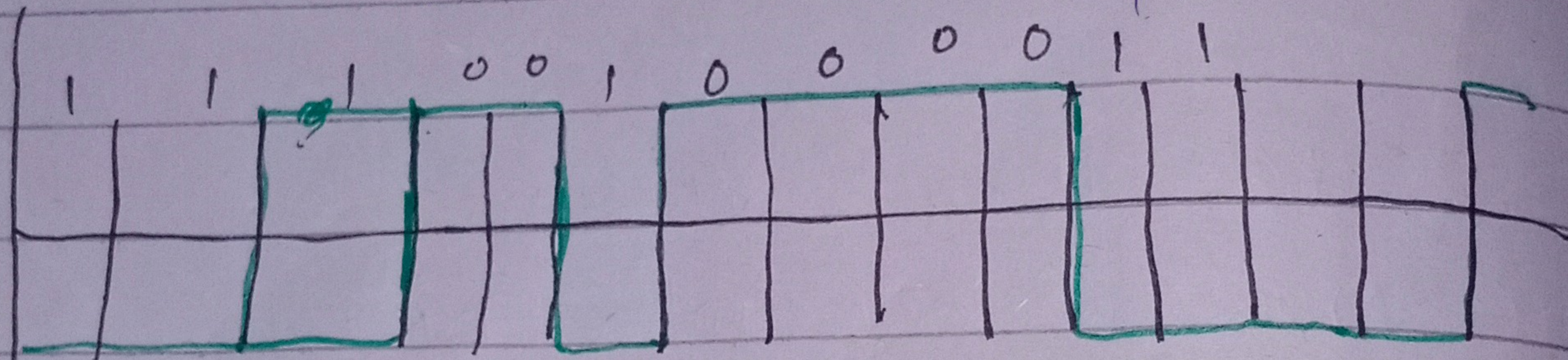


Acknowledgment release for two bits

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NRZ-L Scheme Graph



Haris 14592

(2)

Q No 2

Roll No = 14592

Now Convert into Binary

$$14592 = 11100100000000$$

2	14592	0
2	7296	1
2	3648	1
2	1824	0
2	912	0
2	456	0
2	228	0
2	114	0
2	57	1
2	28	0
2	14	0
2	7	1
2	3	1
	1	

Harris

14592

Page 1

Q1 In a block of address
we know that IP address of
one host is 101.10.11x/1045
find first address and last address?

Solution:-

$$N = 2^{32-n}$$

$$ID = 14592 = 21$$

$$\cancel{45} - 9 + 2 = 11$$

IP address = 101.10.11.21/11

Convert to Binary

00101 1010 1011 10101

Address Mask = 12

$$\text{first IP add} = 32 - 11 = 21$$

00000000 00000000 0000 00000000

Last IP address

11111111 1111 1111 1111 | IP add
101.10.11.31