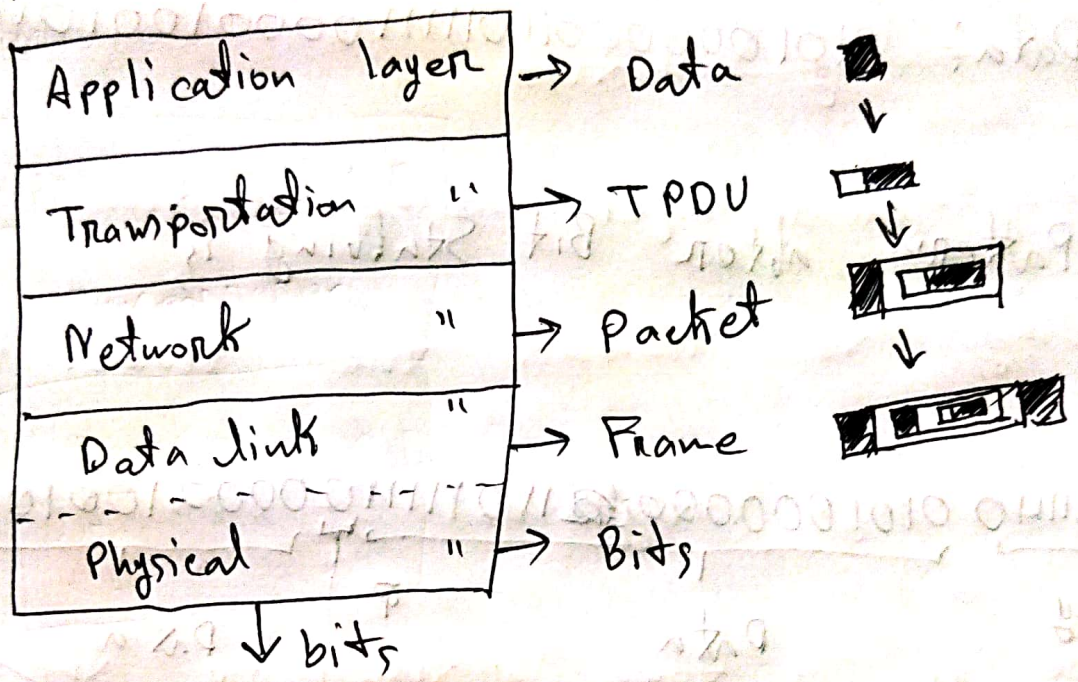
Ans. TO Q.NO:- 1

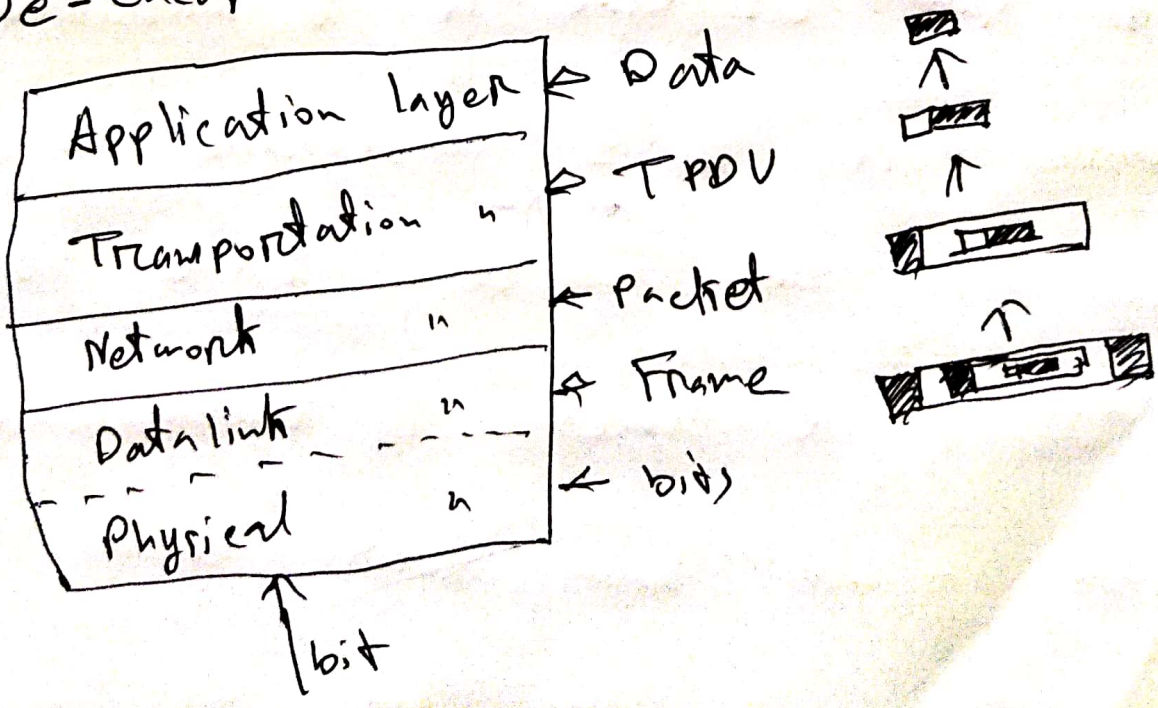
Encaptulation



bits

To Routers,

De-encaptulation

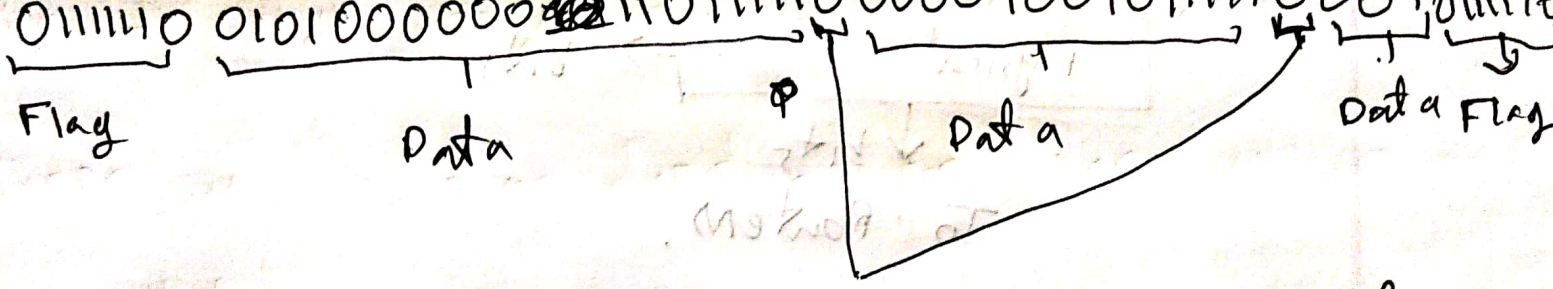


From Router

Ans To Q. No:- 2

The Data:- 01010000001101111100001001011111001

Bit Pattern after Bit Stuffing is;

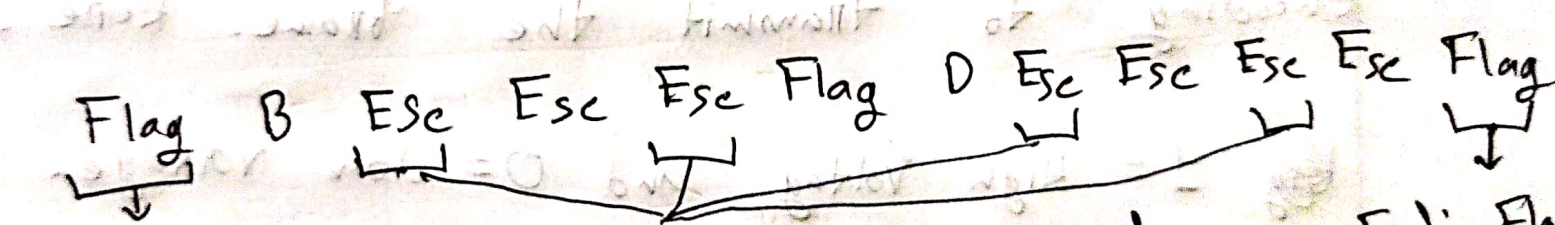


These 0's will be skiped

Ans. TO. Q.NO. 2

The Data : B Esc Flag D Esc Esc

Byte Stuffing Pattern is,



—x—

Am. TO. Q. NO:- 4

~~The coding violation~~

The Physical layer coding violation uses binary encoding to transmit the frame. Here, 1 = High voltag and 0 = low voltage.

There is a time duration for the voltages which is called a bit time.

If the bit time is 5 microsecond and there are 2 consecutive 1's then the bit time will be $5 \times 2 = 10$ microsecond.

So, if it senses 10 microseconds of voltage then it will know that there is 2 consecutive 1's. Same for 0's.

~~That is shown~~

That is how consecutive bits are identified.

— X —