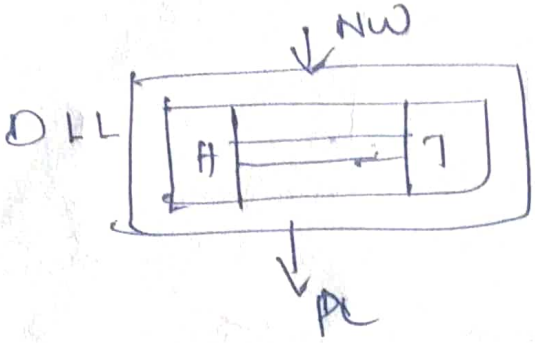
Data link control Services [DLC]

* Framing * Error control * Flow control



Framing

Separates the messages from one source to a destination by adding a sender Address & destination address

Ex:- Postal System

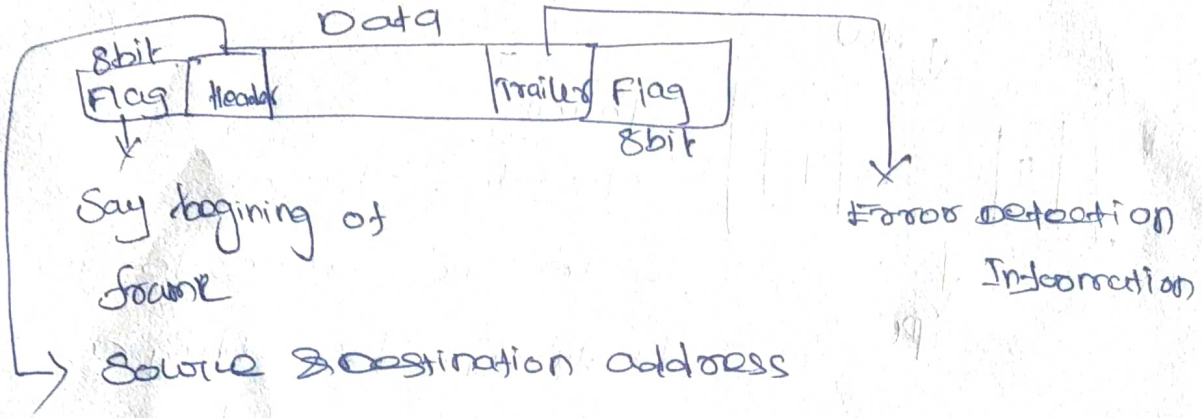
Letter → Data

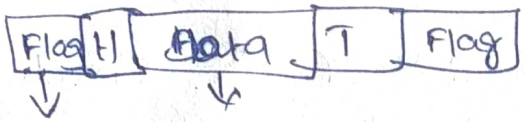
Envelope → SA, DA

Two types of framing

- Fixed size
  - ⇒ no need for restricting the boundaries
  - Ex:- WAN
- Variable Size
  - not known the beg & end of frame
  - Two types
    - Character oriented framing
    - bit oriented framing.

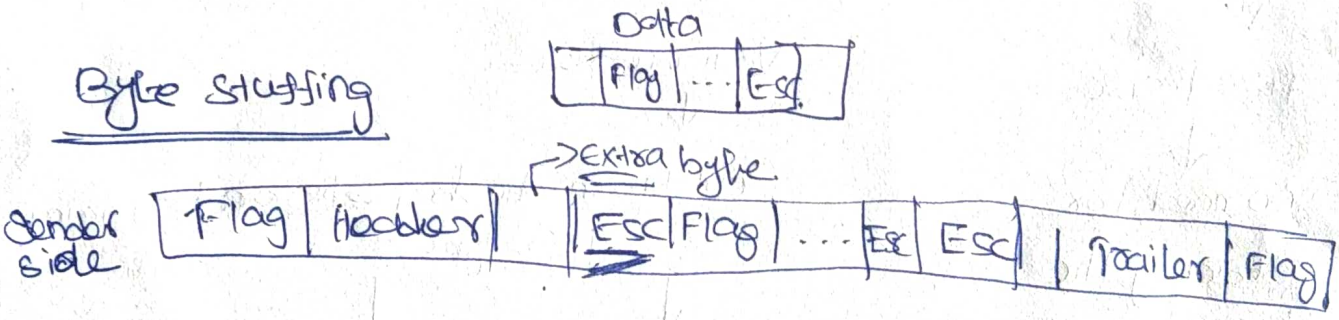
Character oriented framing:-





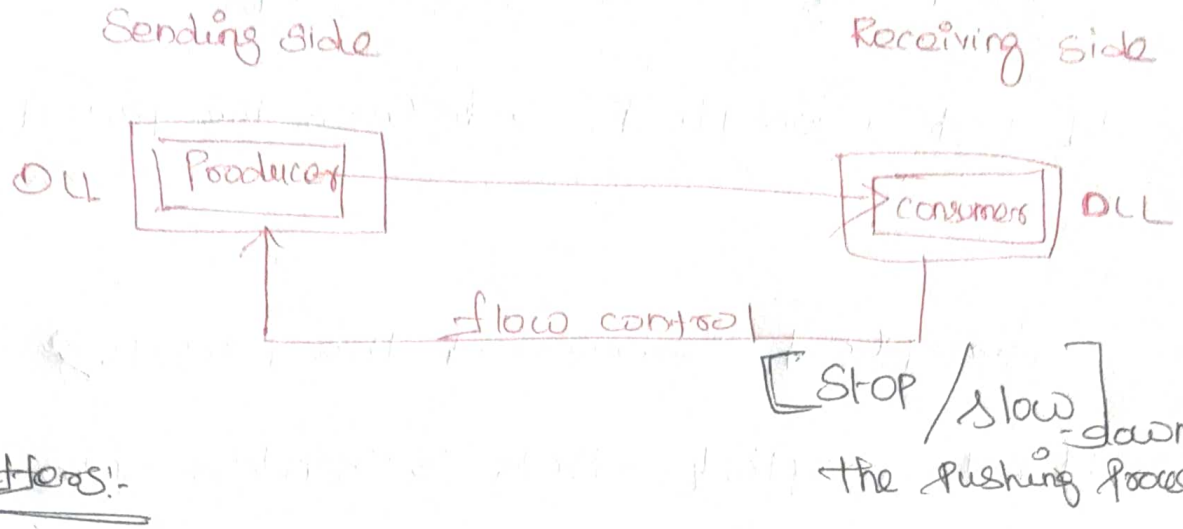
If Flag information & Data Information both are same means only half of the data will sent remaining Data will not sent to avoid this Problem we go for Byte stuffing

Byte stuffing

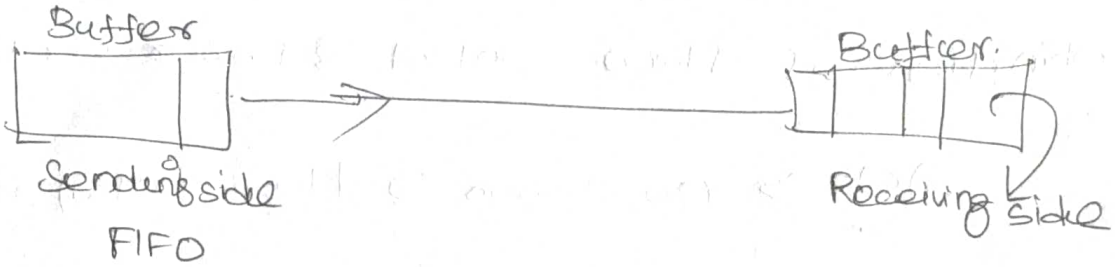


Process of adding one extra byte whenever there is Flag (or) Escape character in the text.

Flow control

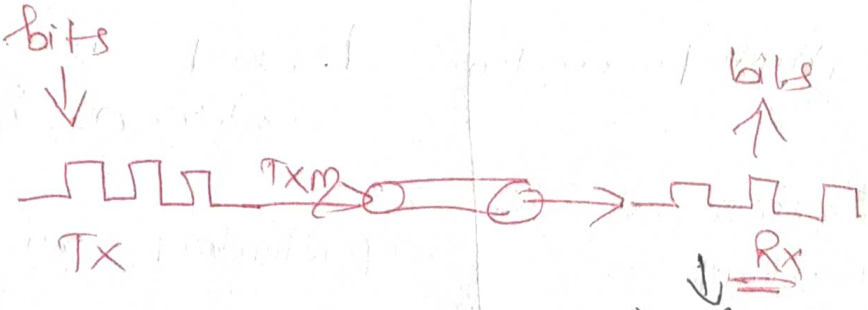


Buffers:-



(X) To avoid loss of frame we use buffers in Sending side & Receiving side.

Error control:-



→ To prevent the receiving node from delivering corrupted packets ~~to~~ to H/w layers.

→ 2 methods [I, II]

I] 1. corrupted packet → discard

2. if not corrupted → deliver the packet to the network layer

II] Corrupted → discard the packets

if not corrupted → ACK → sender side

Combination of flow control & Error control:-

ACK → No error & flow control is properly.

ACK → Acknowledgement

DLC : Data link control

Connection less protocol	Connection oriented protocol
→ no Physical connection	→ Logical connection between two nodes
→ Frames are independent	Dependent frames.
→ Frames are not numbered & not ordered	Frames are numbered & their ordered also
Ex: LAN	Ex: Point to point connection.