Lecture 1.2

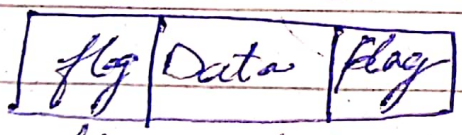
Image

- Every scene

Checksum calculate at end; error detection at the end

Flag Byte with byte Stuffing (Implemented)
How to break frames.

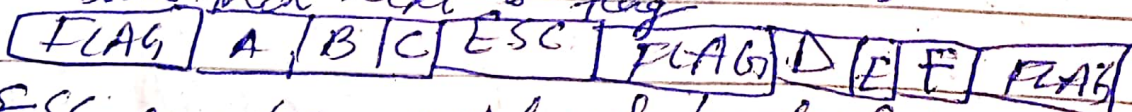
- Same byte add at both ends



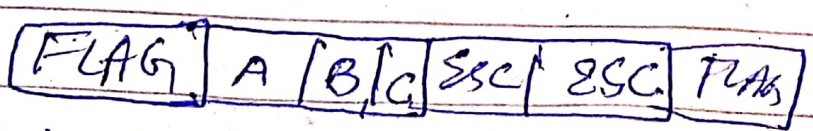
- Starting and ending of frames.
- flag represent data boundaries

e.g 01101010 01111101 00000011 01111101
flag data flag.

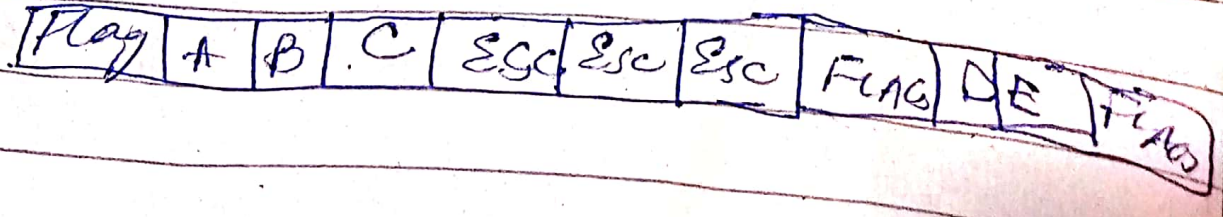
Solution: An extra byte stuffed with flag to make sure that next is flag



But ESC can be considered part of the data then,



If again these esc bytes are considered part of data then add an ESC



In

Bit Stuffing To distinguish frames

The insertion of non information bits into data. Note that stuffed bits should not be confused with overhead bits.

Overhead bits are non-data bits that are necessary for transmission (usually as part of headers, checksums etc.)

e.g add 0 after 5 ones.

Sender knows the flag kon sa hai so it will append the zero after 5 ones in the data part.

0 1111110   0 11111 0 1010101011000010000

↑ add

01111110 flag

Receiver (Remove the zero after 5 ones)

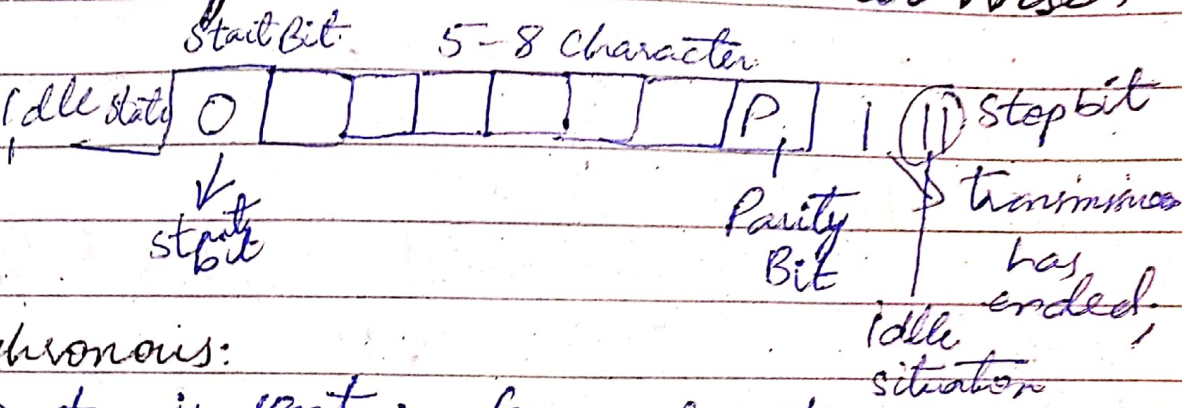
Transmission

Action of transferring or moving something from one position or person to another. A mechanism of transferring data b/w 2 devices connected using a n/w, also called comm. mode.

Transmission Types

— Synchronous

— Asynchronous — Character Wise.



Asynchronous:

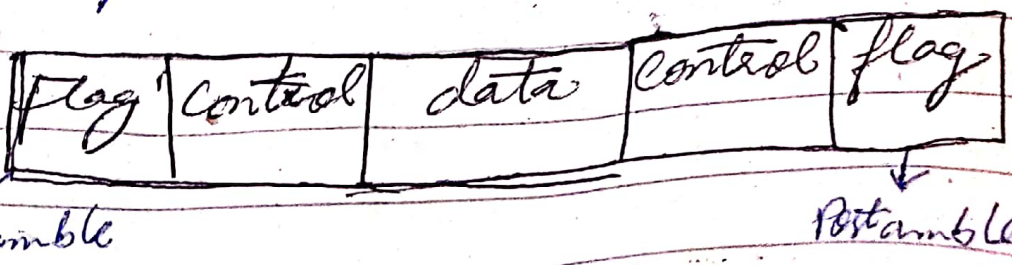
- Data is sent in form of byte or character. In this transmission start & stop bits are added with data. It doesn't require synchronization.

This transmission method sends one character or 8 bits at a time.

Has overhead.

Synchronous:-

A data transfer method in which a continuous stream of data signals accompanied by timing signals.



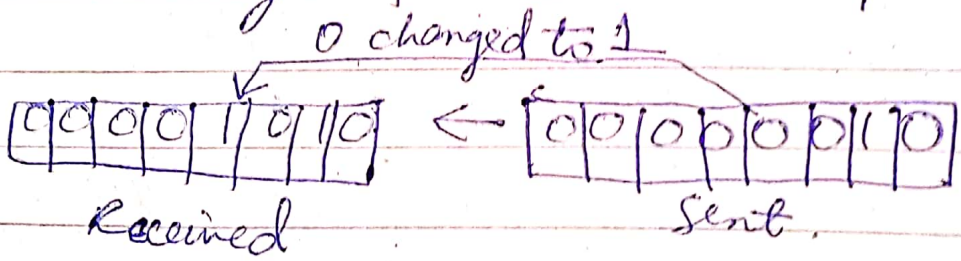
- Used when large amount of data needs

Types of Errors:-

Error can be classified into 2 categories
- Single-Bit Error
- Burst Error

Single-Bit Error

The only one bit of a given data unit is changed from 1 to 0 or from 0 to 1.



The message sent is corrupted as single bit. It doesnot appear more likely in Serial Data Transmission occur in Paalld Data Transmission
In Serial e.g How In pa