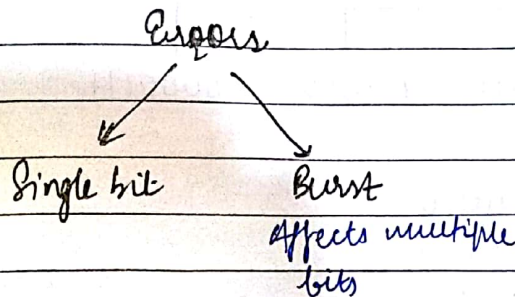
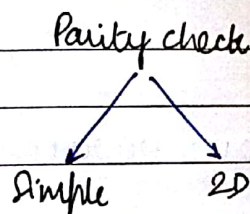


Error control → performed by data link layer

- Error detection
- Error correction



Detection techniques



Simple parity check

- Append an extra parity bit at the end of the bit stream.
- If no. of 1's is even, parity bit is 0.

1 0 0 0 1 0 0 0

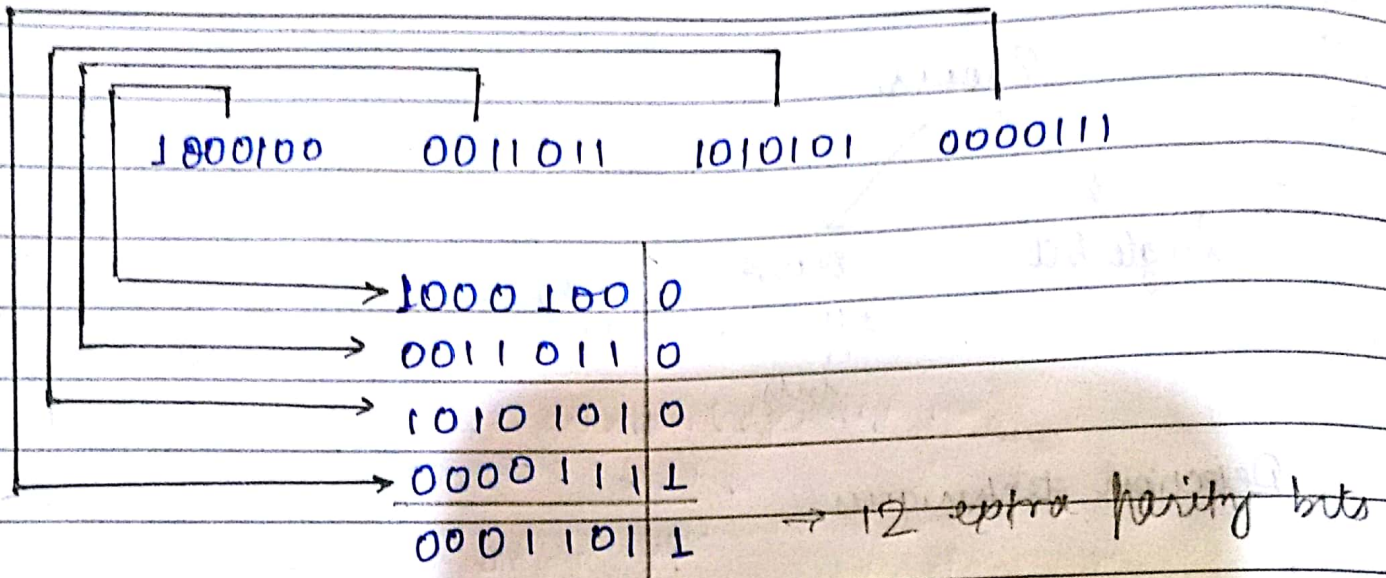
↑
Parity bit

- If no. of 1's and the parity bit don't agree with each other at the receiver's end, the msg is discarded and simply resent by the sender.

- 100% error detection for single-bit error.
- 100% error ~~also~~ detection if odd no. of bits are affected in burst error.
- For even no. of bit change, error won't be detected.
- Overall, 80% of errors are detected.

2D parity check

Opting for groups of 7 bits as ASCII chars are composed of 7 bits.



Required bit stream :

10001000 00110110 10101010 00001111 00011011

- Almost 95% of the burnt areas are detected.