Data Communications and Networking

UNIT-2

Byte-oriented protocol

- **Byte-oriented framing protocol** is "a communications protocol in which full bytes are used as control codes. Also known as character-oriented protocol."

- For example [UART](#)communication is byte oriented.

- A **bit-oriented protocol** is a [communications protocol](#) that sees the transmitted [data](#) as an *opaque*

- stream of [bits](#) with no [semantics](#), or meaning. [Control codes](#) are defined in terms of bit sequences instead of [characters](#). Bit oriented protocol can transfer [data frames](#)regardless of frame contents.

- It can also be stated as "[bit stuffing](#)" this technique allows the data frames to contain an arbitrary number of bits and allows character codes with arbitrary number of bits per character.

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•Each frame begins and ends with a special bit pattern 01111110, called a flag byte.

•A [bit stuffing](#) technique is used to prevent the receiver from detecting the special flag byte in user data.

• e.g. whenever the sender's data link layer encounters 5 consecutive ones in the data, it automatically stuffs 0 into the outgoing stream.