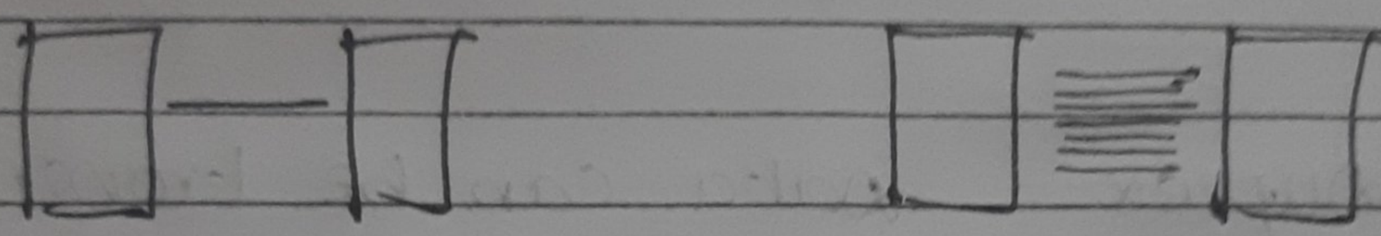
21/2/24

Serial communication - line by line

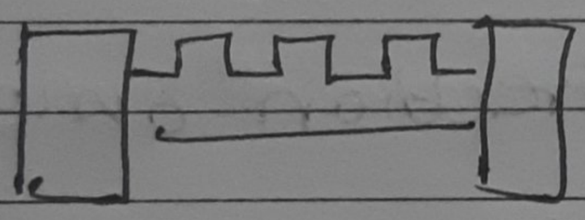
parallel communication - simultaneous



Synchronous

→ clock is transmitted with data

data is synchronized with clock



Asynchronous.

No clock is transmitted. Transmitter and receiver agree on clock speed of the data transmission (baudrate)

Assignment.

Difference between bit rate and baud rate.

UART → universal Asynchronous
Receiver/Transmitter

USART → universal synchronous
Asynchronous Receiver/Transmitter

Duplex - Data can be transmitted
and received.

example: Mobile

Simplex → Data can be transmitted
only or received only

ie: one direction only

eg: radio

Half duplex:

Data can be transmitted
only one way at a time.

Ex

Full Duplex:

Data can be transmitted
in both ways

Assignment - 3

Why Ascii is represenbed in 8 bits!
ASCII Table

Baud rate -> connection speed expressed in bibs per second

Stop bit

parity

odd No. of bits -> odd parity
even No. of bits -> even parity

Alternate table

PA2 -> TX
PA3 -> RX

GPIO means we should enable AHB1 clock

Alternate Function - 4 bit

Moder - 2 bit

serial port
Test
encoding: UTF-