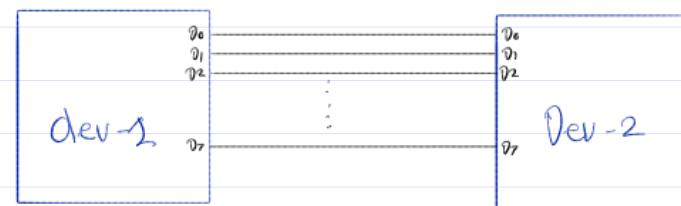


## \* Serial Commn



\* Sent data bit by bit

## \* Parallel Commn



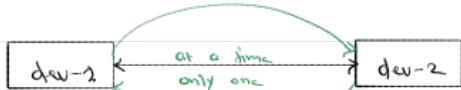
\* Sent data byte by byte.

### ① Simplex



\* One way Commn only.

### ② Half duplex



③ both devices Tx or Rx data

but at time only one.

### ③ Full duplex



\* Both devices send as well Receive data.

## ① Peer to Peer protocol

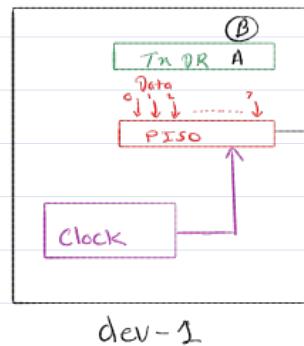


\* one to one device or end to end point communication.

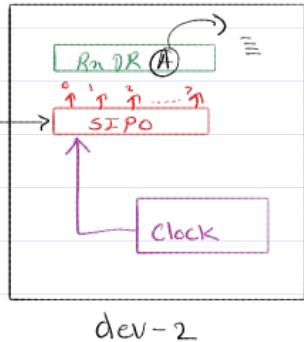
\* e.g.: RS-232

\* Control Device immediately

## \* UART

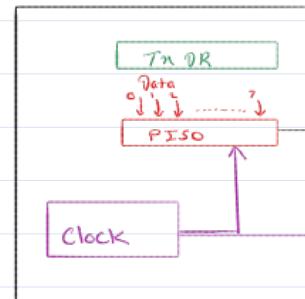


dev-1

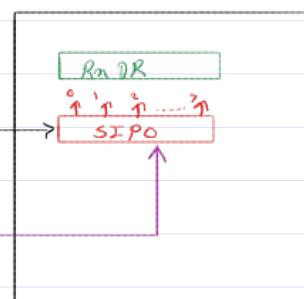


dev-2

## \* USART →

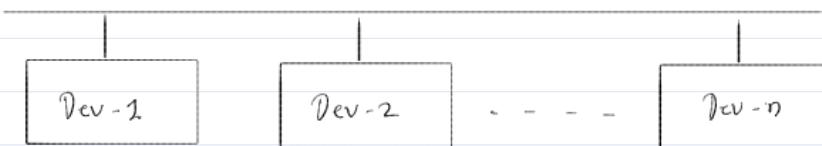


dev-1



dev-2

## ② Bus Protocol



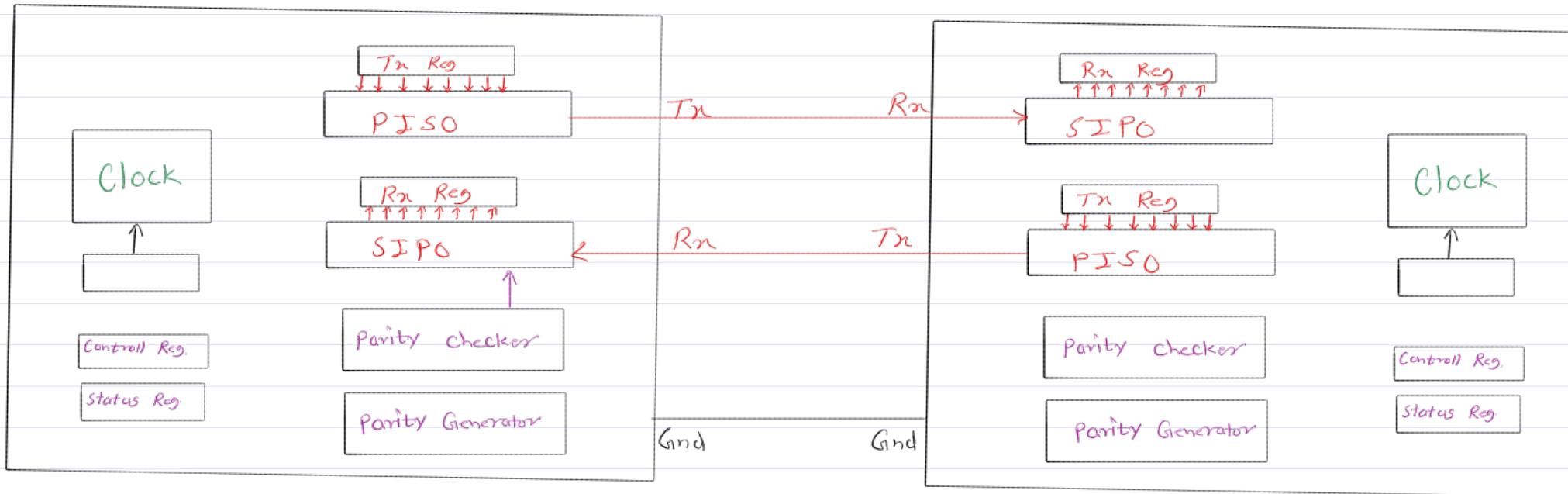
\* multiple devices connected on single line

\* e.g. CAN, I<sup>2</sup>C, SPI.

\* Can not access all device at a same time.

USART

RS-232



dev-1

dev-2

## \* Frame Format of RS-232

