Robert Weischedel

CS 5780

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Lab 4 - Pre Lab

1. What is the difference between a parallel and serial interface?

Parallel interfaces transmit entire blocks of data using multiple wires, with each wire representing the value of a single binary bit. Serial interfaces use a single wire and stream a block of data over time by lining up the bits behind each other.

1. What is the difference between a synchronous and asynchronous interface?

Synchronous systems use a separate “clock” signal which notifies the receiver when to sample, while asynchronous systems operate without a physical clock signal.

1. What is one thing that a communication protocol does?

The communication protocol defines the meaning of bits such that they create data. They must know how to interpret signals into bits and how the patterns of bits make up data.

1. What does the baud rate of a signal mean?

It represents the number of bits per second that are to be transmitted.

1. What register in the USART would you use to enable the transmitter hardware?

Control register 3 (USART\_CR3)

1. Does the transmit (TX) line of the USB-USART cable connect to the transmit (TX) or receive (RX) of the STM32F0?

It connects to the receive (RX) of the STM32F0.