Lab 04
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Prelab Questions

1. What is the difference between a parallel and serial interface? (4.3.1)
   The way they transfer data. Parallel uses multiple wires that represent a single binary bit and receives data all at once. Serial uses a single wire that stacks up the data bits in consecutive order and streams it over a period of time.

2. What is the difference between a synchronous and asynchronous interface? (4.3.2)
   Synchronous interfaces uses a physical clock and are simpler in design, although they require an extra clock connection. Asynchronous interfaces either use a virtual clock or estimate the time intervals between signals. Asynchronous interfaces are more complex and do not have as good of data rates as Synchronous interfaces.

3. What is one thing a communication protocol does? (4.4.2)
   It defines the collection of bits received in an input signal into useful data.

4. What does the baud rate of a signal mean? (4.6.2)
   The frequency in between transmission of bits and is usually determined by the number of bits per second.

5. What register in the USART would you use to enable the transmitter hardware? (4.7.1)
   USART_CR1, Control Register 1
   USART_CR1 – en/den interrupt conditions and portions of USART peripheral
   USART_CR2 – control signal polarity and routing
   USART_CR3 – manages hardware *flow* control, DMA, and Smartcard interface

6. Does the transmit (TX) line of the USB-USART cable connect to the transmit (TX) or the receive (RX) of the STM32F0? (4.8.1)
   The receive (RX) of the STM32F0