Lab 9 – Communication between Microcontrollers

Digital Systems and Microcontrollers
IIIT-H Spring'21

Objective:

1) To establish a bi-directional serial communication between two microcontrollers (Arduino)
2) To send and receive data (both string and numbers) between two microcontrollers.

Description:

Function: Serial()

Used for communication between the Arduino board and a computer or other devices. All Arduino boards have at least one serial port (also known as a UART or USART), and some have several. On Uno, Nano, Mini, and Mega, pins 0 and 1 are used for communication with the computer. Connecting anything to these pins can interfere with that communication, including causing failed uploads to the board. Serial communication on pins TX/RX uses TTL logic levels (5V or 3.3V depending on the board). Don't connect these pins directly to an RS232 serial port; they operate at +/- 12V and can damage your Arduino board.

To use these extra serial ports to communicate with your personal computer, you will need an additional USB-to-serial adaptor, as they are not connected to the Mega's USB-to-serial adaptor. To use them to communicate with an external TTL serial device, connect the TX pin to your device's RX pin, the RX to your device's TX pin, and the ground of your Mega to your device's ground.

Outcome: Need to show the transfer of data (both string and number) between two Arduino in bi-directional mode.