

08/05/2022

Arduino code:

The comments should be self explanatory, anyway:

- The supposed board is the UNO
- The supposed BT shield is a HC05 or HC06 (not BLE) connected to the pins 2 = Rx; 3 = Tx
- The pin 2 shall be connected to the Tx of shield; the pin 3 shall be connected to the Rx of Shield
- Since the Rx shield works @3.3 volts you better use a partition like annexed drawing.
- The supposed baudrate toward the shield is 9600 bps
- The loop consists of a neverending repetition of working tasks intermixed every 2 seconds by a transmission to the BT of a "\$" character to behave like an "alive" trigger to the phone.
- The aim is that whatever is doing and sending the DoMyStuff(), every two seconds also the alive character is sent.

MIT AI2 code:

Clock1:

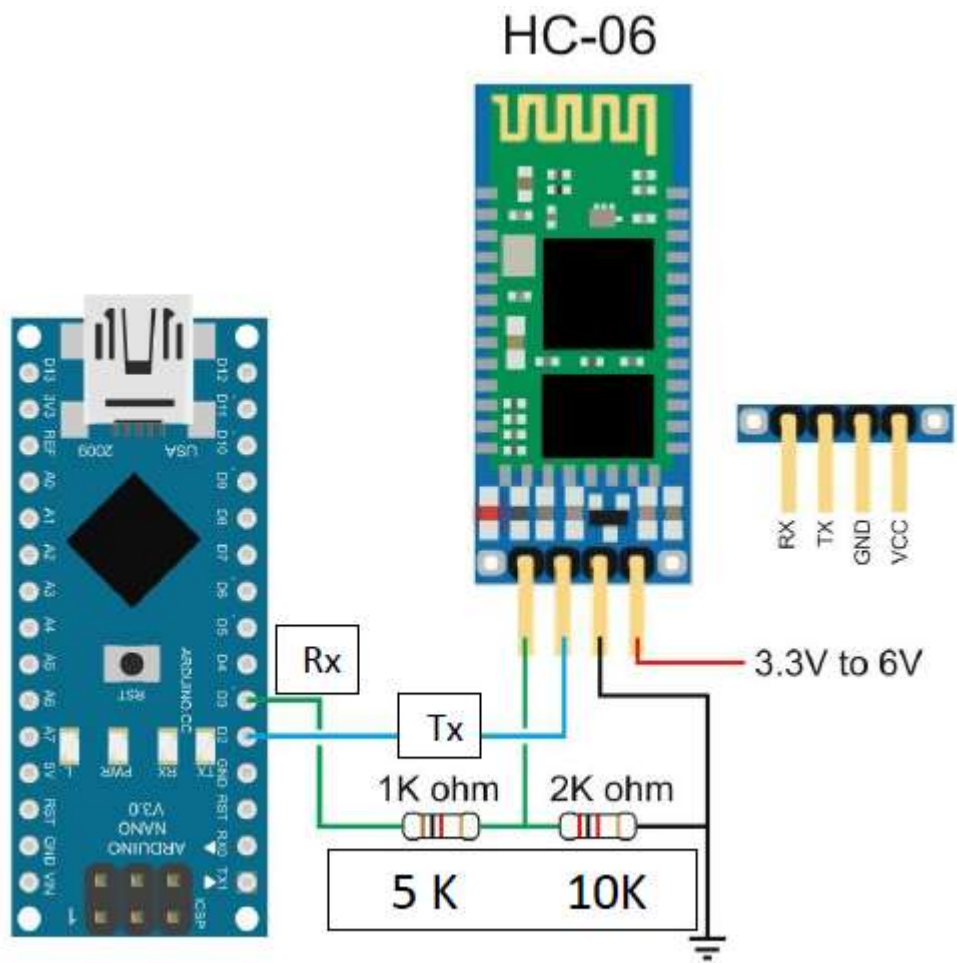
- fires every 1 second
- it counts down from 10
- when it reaches 0 it writes on a label that the timeout without receiving characters from the BT is elapsed.
- The label then warns the user to hit the "CONNECT" button to try to re-establish the BT connection. This can be automated without the need that the user hits a button by calling directly the ProConn block at the end of Clock1 (currently disabled block)

Clock2:

- fires only once, started by Screen1 Initialize.
- It is required to allow time at initialization before trying to connect the BT.
- It is restarted by the ProConn when there is the need to try a reconnection.

Clock4:

- Fires every 100 ms
- Gets BT data if any
- If data are available in the Rx buffer it fetches all the data until the buffer is emptied
- NOTE: the Arduino must send a CRLF characters pair when any transmission is finished, so when sending the "\$", it must be used a myserial.println(). Also when the temperature data are sent, the last character shall be a LineFeed (LF, 0x0A): so a series of myserial.print() can be used to send data, BUT the last one shall be sent using a myserial.println().
- If the "\$" character is received alone, or within a data buffer, the timeout is reinitialized to 10, so a new period of 10 seconds is allowed before declaring a loss of communication.



The drawing represents an Arduino NANO, instead of an UNO, but the schematic just wants to describe the resistors' partition, so to preserve the HC06 Rx pin.