Task 3.1A - Thirsty Crow

Establishing XBee Communication between Microcontroller and Computer

One of the important requirements in this theme is to establish XBee communication between the computer system (on which your python code will run) and the ATMEGA2560 microcontroller board (situated on the robot).

We will be using AVR UART programming and PySerial library to implement the same in this task.

Problem Statement

1. In this task you are required to complete code in the **echo.c** AVR code file as well as the **echo.py** Python file.
2. The python file when run should accept single character input from user and transmit those characters to microcontroller.
3. The microcontroller should receive the input and respond with the following string

   I Received : <character input by user>
4. The received string should be visible on the Python console.
5. The expected output is given in Figure 1.

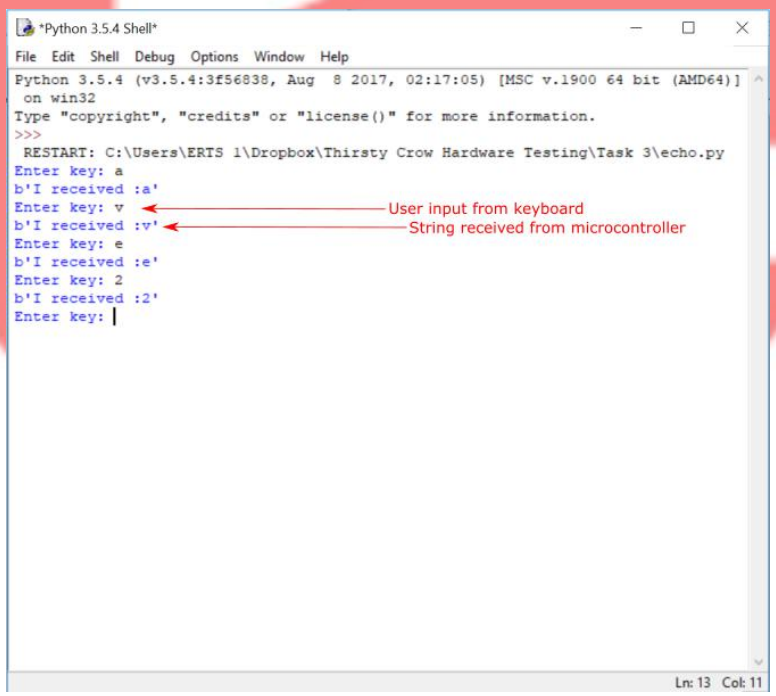

Figure 1: Python Console Output

Instructions to completing Task

1. Please make sure you have installed the PySerial module for python. Instructions to install the Pyserial module are given in the Hardware Testing task given earlier.
2. You can refer resources to study on the PySerial API from this link
3. Ensure that your XBees are properly configured before attempting this task.
4. Some functions are already given in the echo.c file. The rest of the code you are required to modify yourself to get the necessary output.
5. After you have completed the task, you are required to make a 30 sec video of the task by recording the screen. The video should resemble the following output video link.
6. Name the video as **eYRC#TC#<Team Id>#Task3.1A** and upload it on Youtube as unlisted.
7. Create a blank text file named **eYRC#TC#<Team Id>#Task3.1A.txt** and copy the Youtube video link to this file.

That's it! You are good to go!