User manual

1. Open the CodeWarrior and MATLAB files.
   a. If you want to implement the core function, open '**core_function'** file for CodeWarrior and MATLAB function '**simple_serial.m'**
   b. If you want to implement the bonus 2 (xy axis), open **'y-axis'** file for CodeWarrior and MATLAB function **'xy_axis.m'**
   c. If you want to implement the bonus 3 (360°), open **'360deg'** file for CodeWarrior and MATLAB function **'full_deg.m'**
2. Connect the LED and button to the Esduino, following pin assignment map in the report section 2.a for on-board pin, section 2.c for accelerometer and section2.I, J for the full circuit.
3. If you want to implement 1.b or 1.c function, please make sure you have connected one extra line from the accelerometer to the pin.
4. Configure the windows USB virtual COM ports
   This pc → properties → device manager → USB serial Port → COMX (x is the port number); record the x for future use in the MATLAB.
5. Based on the x value, change the number 4 in 5th line of the MATLAB code `s = serial('COM4');` into x
6. In the 6th line `s.BaudRate=14400;` the baud rate should be as same as the value in the code **SCI_Init(baud rate)**
7. Press "Debug" button in CodeWarrior, then press OK until the debugging interface appears

8. Run the MATLAB code **first**, then run the code (green arrow button)
9. If you pressed the button, the serial communication will start.
10. If you want to restart the program. You have to stop the MATLAB and CodeWarrior. If you only stop MATLAB and then start again, no data will be transmitted.