Lab3 description:

Prerequisites:

- Microcontroller GPIO to be covered completely – Chapter 3 in lectures

Examples objectives:

- Understanding the GPIO features in Datasheets.
- Understanding super loop architecture.

Assignments:

1- You are required to write a code that perform LED blinking. The LED is connected to PORTA pin 0.
   You are required to write only a main function that perform the needed port initialization actions to control the LED. The function shall contain an infinite loop that perform the following actions in sequence:
   1- Set the LED pin to high.
   2- Wait for a predefined time.
   3- Set the LED pin to Low.
   4- Wait for a predefined tine.
   5- Repeat from step 1.

HW assignment2:

RGB LED controller.

The system is consisted of 1 push button and 1 RGB LED. The Push button is connected to PORTB pin 3. The 3 LED pins are connected to port B pins 5, 6 and 7. The Push button is active low**, without external pull up resistor**.

You are required to write a code that scans the button periodically. At each valid button press, the Software shall change the RGB LED color.

A button press shall be considered valid only when a falling edge is detected on the button pin. Button debouncing feature shall be added. The LED shall provide 8 colors controlled by the enabled colors mix (RED + GREEN + BELOW).