Postlab Questions:

1. Write an Arduino sketch to perform the following.
    a. Count the # of times the push button is pressed.
    b. Based on the count value the external LED connected must glow. (e.g.) When the push button is pressed for the 1st time LED must glow once. When it is pressed for the second time the LED must glow twice. (Use the debounce logic)
    c. Draw the necessary circuit diagram.
2. Write an Arduino sketch to perform the following.
    a. Connect an array of 3 LEDs.
    b. Design a counter to display the binary equivalent of numbers from 0 to 7 using three LEDs.
    c. When the number 7 is reached, the value must again start with 0. (e.g.) 0 – all LED in LOW State. 1 – LED 1 in HIGH state and others in LOW state.
    d. Draw the necessary circuit diagram.
3. Write an Arduino sketch to perform the following.
    a. Connect 2 RGB LEDs.
    b. The colour display of both the LEDs must be as follows.

LED1	**LED2**	**Delay**
Red	Blue	2s
Blue	Green	2s
Green	Red	3s

    c. Draw the necessary circuit diagram.
4. Write an Arduino sketch to perform the following.
    a. Connect an array of 7 LEDs.
    b. Perform blink of LEDs as stated in the following table. Set the delay as 1 s.

LED 1	**LED 2**	**LED 3**	**LED 4**	**LED 5**	**LED 6**	**LED 7**
HIGH	LOW	LOW	LOW	LOW	LOW	LOW
LOW	HIGH	LOW	LOW	LOW	LOW	LOW
LOW	LOW	HIGH	LOW	LOW	LOW	LOW
LOW	LOW	LOW	HIGH	LOW	LOW	LOW
LOW	LOW	LOW	LOW	HIGH	LOW	LOW
LOW	LOW	LOW	LOW	LOW	HIGH	LOW
LOW	LOW	LOW	LOW	LOW	LOW	HIGH

c. Draw the necessary circuit diagram.

5. Write an Arduino sketch to perform the following.
    a. Connect LEDs of colours red, yellow and green.
    b. Simulate a traffic control system in such a way that,
        i. Start with Red light. Make it glow for 45 seconds.
        ii. After 45 seconds glow the Yellow LED for 5 seconds.
        iii. After 5 Seconds glow the Green LED for 50 seconds.
    c. Draw the necessary circuit diagram