Lab 0: Introduction to PSoC and PSoC Creator

Instructor's Guide

Lab Introduction

If you haven't already, read the document named "PSoC Instructor Introduction."

This lab introduces the major concepts of PSoC development. Refer back to this lab as necessary to recall these concepts.

The content found in these guides supplement the labs by providing any additional information necessary for an instructor to run the lab and example solutions.

Instructor Review

The majority of the lab includes the exact procedure to complete it. The only portion that is left to the student to figure out is part of the firmware. So it would be best to evaluate the lab based on the following of directions, quality of the code, and proper behavior. Use the tests listed in Part 5 of the procedure to evaluate the behavior.

Here is a sample solution for the firmware. The full solution is found in the

```c
int main()
{
    //SNIPPED: Initialization code found at the end of procedure part 4
    //Infinitely loop
    for(;;)
    {
        //Read the pushbutton only once
        uint8 buttonRead = Pushbutton_Read();

        //Determine if the count should be incremented
        //The pressed boolean is used to count only once per press
        //Print the new value of the count only if it changed
        //Printing the count continuously may cause the LCD screen to flicker
        if(buttonRead == 0 && !pressed)
        {
            pressed = 1;
            ++count;
            Display_Position(1, 0);
            Display_PrintNumber(count);
        }
        else if(buttonRead == 1 && pressed)
        {
            pressed = 0;
        }
```

```c
        //Turn the LED on if the pushbutton is pressed, otherwise turn it off
        if(buttonRead == 0)
        {
            LED_Write(1);
        }
        else
        {
            LED_Write(0);
        }
    }
}
```