EEE204 - Introduction to Embedded Systems

Experiment 7

Objectives:

The MSP430F5529 has two LED's connected to P1.0 (LED1) and P4.7 (LED2) and two buttons connected to pins P1.1 and P2.1 on the MSP430F5529 LaunchPad for I/O operations. The main objective of this experiment is to blink the leds connetcted to P1.0 and P4.7 using GPIO. This experiment will help you to learn and understand the procedure for programming the MSP-EXP430F5529 LaunchPad digital I/O pins.

Materials

- Code Composer Studio IDE
- MSP430F5529 USB LaunchPad development kit

Experimental Work

E1 Write C language programs to do the following operations. While the code is running, pause it. In the Registers tab of CCS, expand and view the registers P1OUT, P1DIR, step your program through the main loop and observe the registers.

a) Turn on the led connected to the P1.0.

b) Toggle the led connected to the P1.0 at fixed time intervals determined within the code.

c) Alter the delay with which the LED blinks.

d) Alter the code to make the LED connected to P4.7 blink.

E2

a) Write C language program to turn on the leds connected to P1.0 and P4.7 together.

b) Alter the code to make both leds blink together.

c) Alter the code to make both leds blink alternately.