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/*
/* led_test.c
* #####
*
* A simple software application to test the functionality of the led_controller
* IP core. The value of a counter is output to the LEDs.
*
* #####
* v1.1 -- 01/05/2015
* Updated for Zybo ~ DN
*
* v1.0 -- 25/10/2013
* First Version Created
* ##### */

/* Generated driver function for led_controller IP core */
#include "led_controller.h"
#include "xparameters.h"

// Define maximum LED value (2^4)-1 = 15
#define LED_LIMIT 15
// Define delay length
#define DELAY 10000000

/* Define the base memory address of the led_controller IP core */
#define LED_BASE XPAR_LED_CONTROLLER_0_S00_AXI_BASEADDR

/* main function */
int main(void){
    /* unsigned 32-bit variables for storing current LED value */
    u32 led_val = 0;
    int i=0;

    xil_printf("led_controller IP test begin.\r\n");
    xil_printf("-----\r\n\n");

    /* Loop forever */
    while(1){

```

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while(led_val<=LED_LIMIT){
    /* Print value to terminal */
    xil_printf("LED value: %d\r\n", led_val);
    /* Write value to led_controller IP core using generated driver function */
    LED_CONTROLLER_mWriteReg(LED_BASE, 0, led_val);
    /* increment LED value */
    led_val++;
    /* run a simple delay to allow changes on LEDs to be visible */
    for(i=0;i<DELAY;i++);
}
/* Reset LED value to zero */
led_val = 0;
    }
return 1;
}

```