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Section 4

Description:

This lab/program is meant to have an LED on the AVR board blink. It uses pin 5 of port B. Turning this pin on will cause the LED to turn on and turning it off will cause the LED to turn off. The program should use looping to cause the blinking effect.

Results:

The program uses pin 5 of port B and it first enters an infinite while loop and sets the output of B5 to 1. It then enters another infinite while loop, where it first turns on pin B5 by setting it to 1. Then the program does a delay of 100 ms, leaving the LED on for that long. After, the program turns off pin B5 by setting it to 0. Another delay of 100 ms occurs, leaving the LED off for that long. Then the program loops back to the beginning of the while loop over and over again, causing the LED to turn off and on. This essentially causes the LED to "blink".

Source code:

```
      /*/*
 * Lab1.c
 *
 * Created: 7/24/2018 7:05:14 PM
 * Author : ANUP
 */
#define F_CPU 16000000UL  // 16MHz clock from the debug processor
#include <avr/io.h>
#include <util/delay.h>


int main(void)
{
    /* Replace with your application code */
    while (1)
    {
            DDRB |= (1<<DDB5);  //0x20 (hex) // Set port bit B5 in data
direction register to 1: an OUTput
            while(1){
                  PORTB |= (1<<PORTB5); //Set port bit B5 to 1 to turn on
the LED
                  _delay_ms(100);  //delay 100ms
                  PORTB &= ~(1<<PORTB5); //Clear port bit B5 to 0 to turn
off the LED
```

```
                    _delay_ms(100);
                }

        }
    }
```