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MICROCONTROLLER AND MICROPROCESSOR LAB

EXPERIMENT 10 - C

AIM: Write an embedded C program to blind all the LEDs connected to Port1 on 8051 microcontrollers with the following pattern. The delay between the two patterns should be 1ms.

Pattern 1

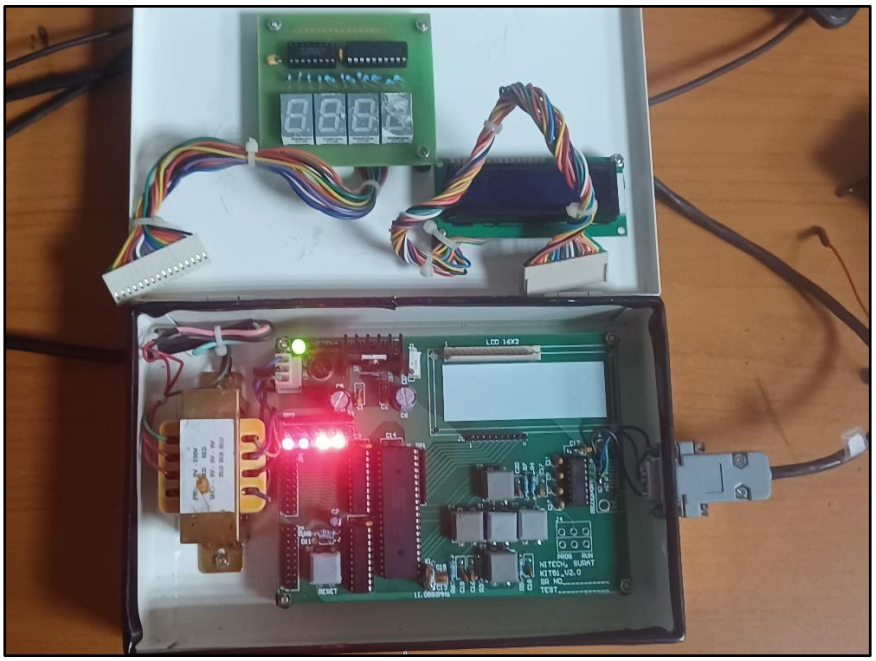
Pattern 2

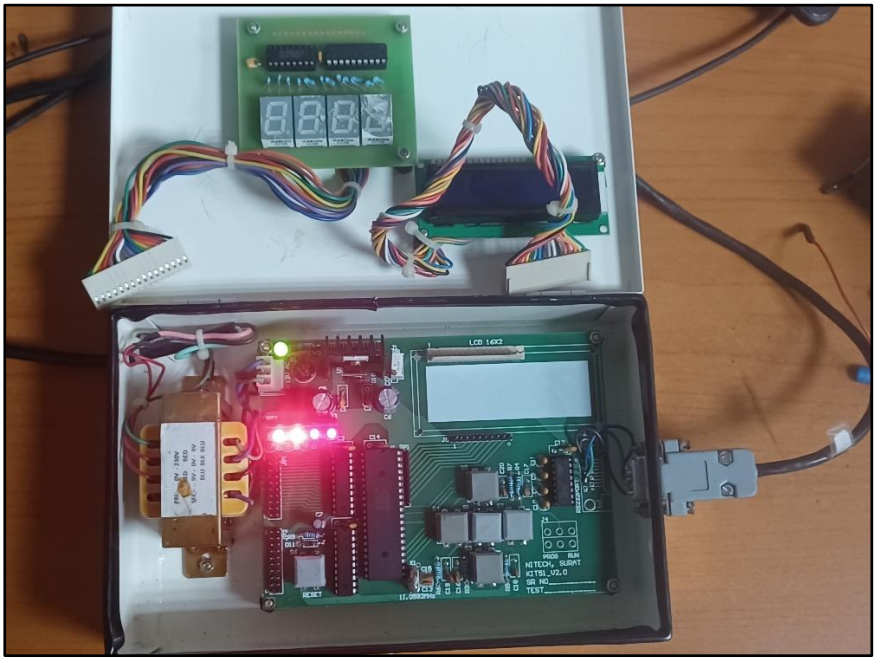
SOFTWARE USED: Keil uVision5

CODE:

```
#include<reg51.h>

void timer_isr();

void timer_isr(void) interrupt 1
{
	static unsigned int sec_cnt;
	static unsigned pattern=0xaa;
	TH0=0XE8;
	TL0=0x2F;
	sec_cnt++;
	if (sec_cnt==500)
	{
		sec_cnt=0;
		pattern=~pattern;
		P1=pattern;
	}
}

void main()
{
	P1=0;
	TMOD=0x01;
	TH0=0XE8;
	TL0=0x2F;
	ET0=1;
	EA=1;
	TR0=1;
	while(1);
}
```

RESULT:





CONCLUSION:

This embedded C program toggles all LEDs connected to Port1 on an 8051 microcontroller with alternating patterns, synchronized by a timer interrupt running at 1 ms intervals. The pattern switches every 500 ms.