

INTERFACING & CONTROL OF LEDs WITH SWITCHES FOR AT89C51 MICROCONTROLLER USING KEIL & PROTEUS SIMULATION

AIM: To interface & control of LEDs with switches for Atmel AT89C51 microcontroller using Keil & Proteus simulation.

Software required:

1. Keil Version-3
2. Proteus 8 Professional

Procedure:

1. Write an embedded C program to interface & control of LEDs with Switches for Atmel AT89C51 microcontroller using Keil Version-3.
2. Generate hex file for the program written for the required application.
3. Connect the hardware circuit in Proteus 8 Professional software with the required components.
4. Load the hex file in the AT89C51 microcontroller & set the operating frequency as 11.0592 MHz.
5. Run the circuit and check the results.

Embedded C program:

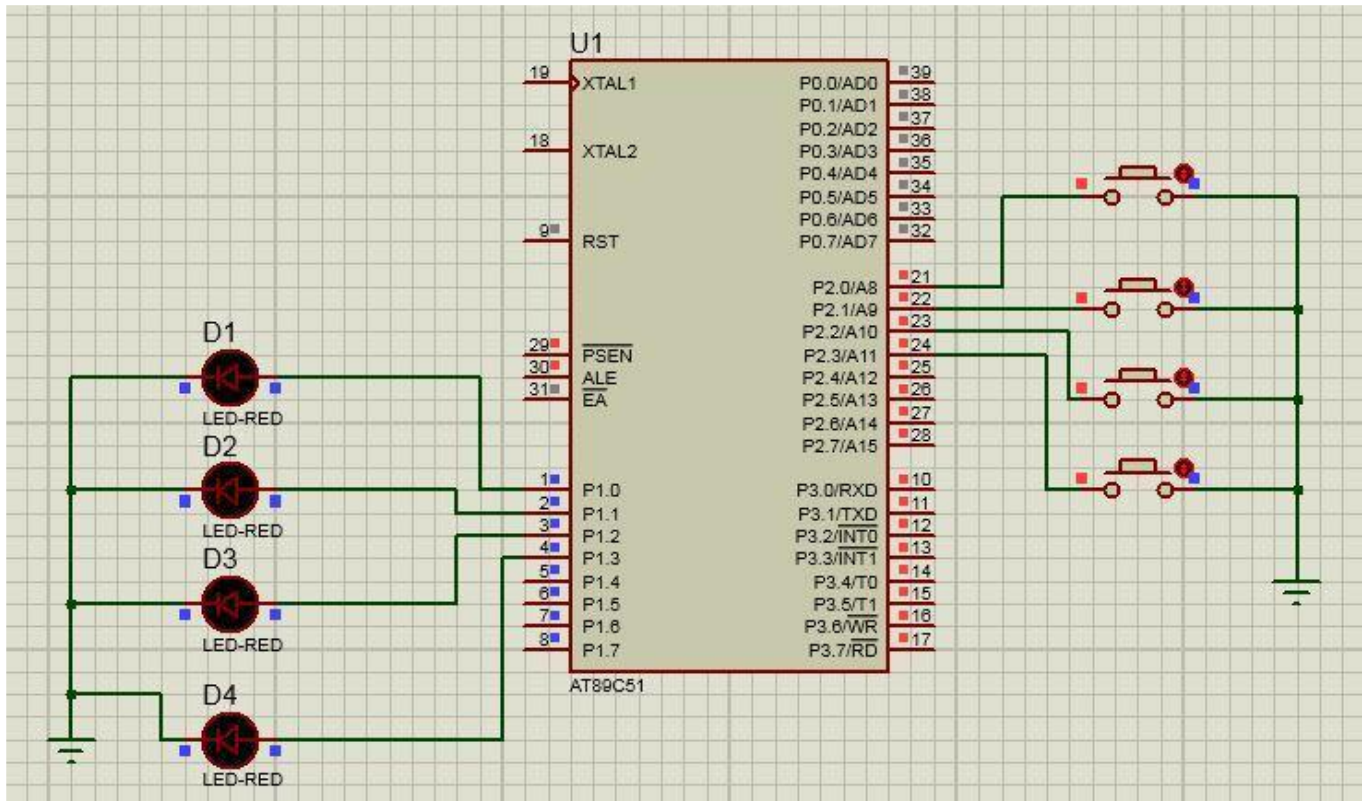
```
#include<reg51.h> // To include 8051 header file //
sbit led1=P1^0; // LEDs 1 to 4 are assigned to Port 1.0 to Port 1.3 //
sbit led2=P1^1;
sbit led3=P1^2;
sbit led4=P1^3;
sbit sw1=P2^0; // Switches 1 to 4 are assigned to Port 2.0 to Port 2.3 //
sbit sw2=P2^1;
sbit sw3=P2^2;
sbit sw4=P2^3;
void main()
{
P1=0x00; // Port 1 as output port configuration //
P2=0xff; // Port 2 as input port configuration (default) //
while(1)
{
if (sw1==0) // Switch 1 terminal one end ground & other end as i/o pin //
{
led1=1;
while(sw1==0);
}
if (sw2==0) // Switch 2 terminal one end ground & other end as i/o pin //
{
led2=1;
while(sw2==0);
}
if (sw3==0) // Switch 3 terminal one end ground & other end as i/o pin //
{
led3=1;
while(sw3==0);
}
if (sw4==0) // Switch 4 terminal one end ground & other end as i/o pin //
{
led4=1;
while(sw4==0);
}
```

```

led1=led2=led3=led4=0;
}
}

```

Hardware Circuit:



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