PROGRAMS ON PROGRAMS ON I/O PORTS(HARDWARE)

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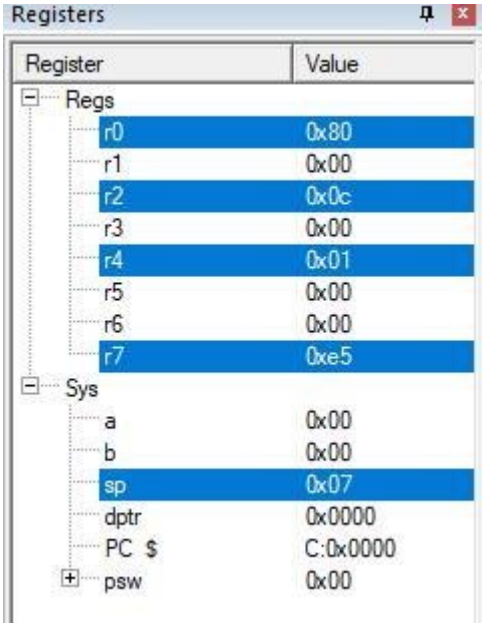
AIM: To implement the programs using 8051 Microcontroller kit.

Qn1

Lab6.c* STARTUP.A51

```
1  //Write an 8051 program to toggle one bit of PORT 1 50000 times.
2
3
4  #include<reg51.h>
5  void delay_ms(unsigned int j);    //Delay function declaration
6  sbit toggle=P1^1;         //define name for Port bit
7
8  void main(void)
9  {
10   unsigned int z;       //initialize varible..
11   //P1=0xFF;
12   P1=0x00;          //configure Port 1 As output port.
13   for(z=0;z<15;z++)  //(toggle P1 Bits 50000times
14   {
15     toggle=0;       //send data to port 1 pin 0.
16     delay_ms(250);      //wait some time (delay=1sec).
17     toggle=1;       //send another data for toggle the bits.
18     delay_ms(250);      //wait some time (delay=1sec).
19    }
20 }
21
22 void delay_ms(unsigned int j)    // DELAY = 1ms
23 {
24   unsigned int i;
25   for(;j>0;j--)
26   {
27     for(i=250;i>0;i--)
28     {}
29     //for(i=250;i>0;i--)
30     //{}
31
32   }
33 }
34 /*
```



QN2

```
#include<reg51.h>
void delay_ms(unsigned int j);    //Delay function declaration
sbit toggle=P1^1;          //define name for Port bit

void main(void)
{
  P1=0xFF;
  //P1=0x00;          //configure Port 1 As output port.
  while(1)         //(toggle P1 Bits continously
  {
    toggle=0;       //send data to port 1 pin 0.
    delay_ms(250);      //wait some time (delay=1sec).
    toggle=1;       //send another data for toggle the bits.
    delay_ms(250);      //wait some time (delay=1sec).
   }
}


void delay_ms(unsigned int j)     // DELAY = 1ms
{
  unsigned int i;
  for(;j>0;j--)
  {
    for(i=250;i>0;i--);
    //{}
    //for(i=250;i>0;i--)
    //{}

  }
}
```

Result:

Thus, the programs were implemented using 8051 Microcontroller kit.