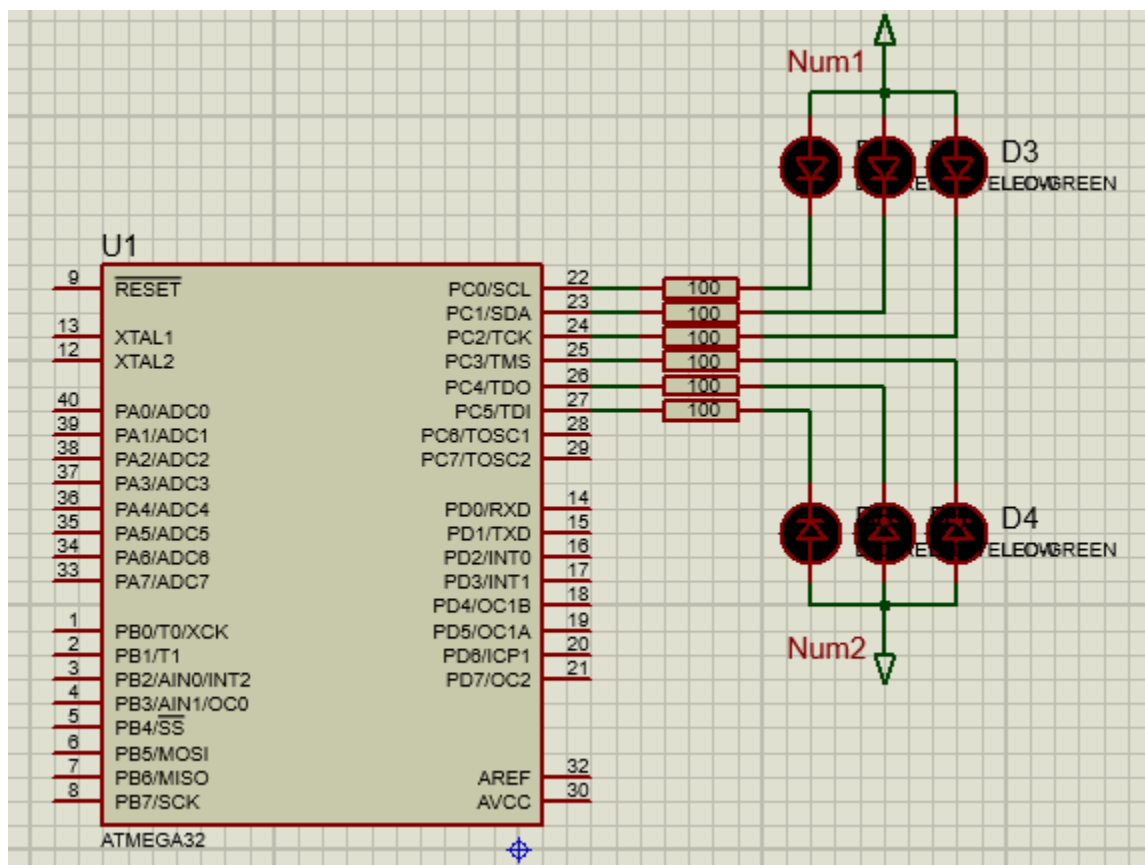متین گلپایگانی

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آزمایشگاه ریزپردازنده
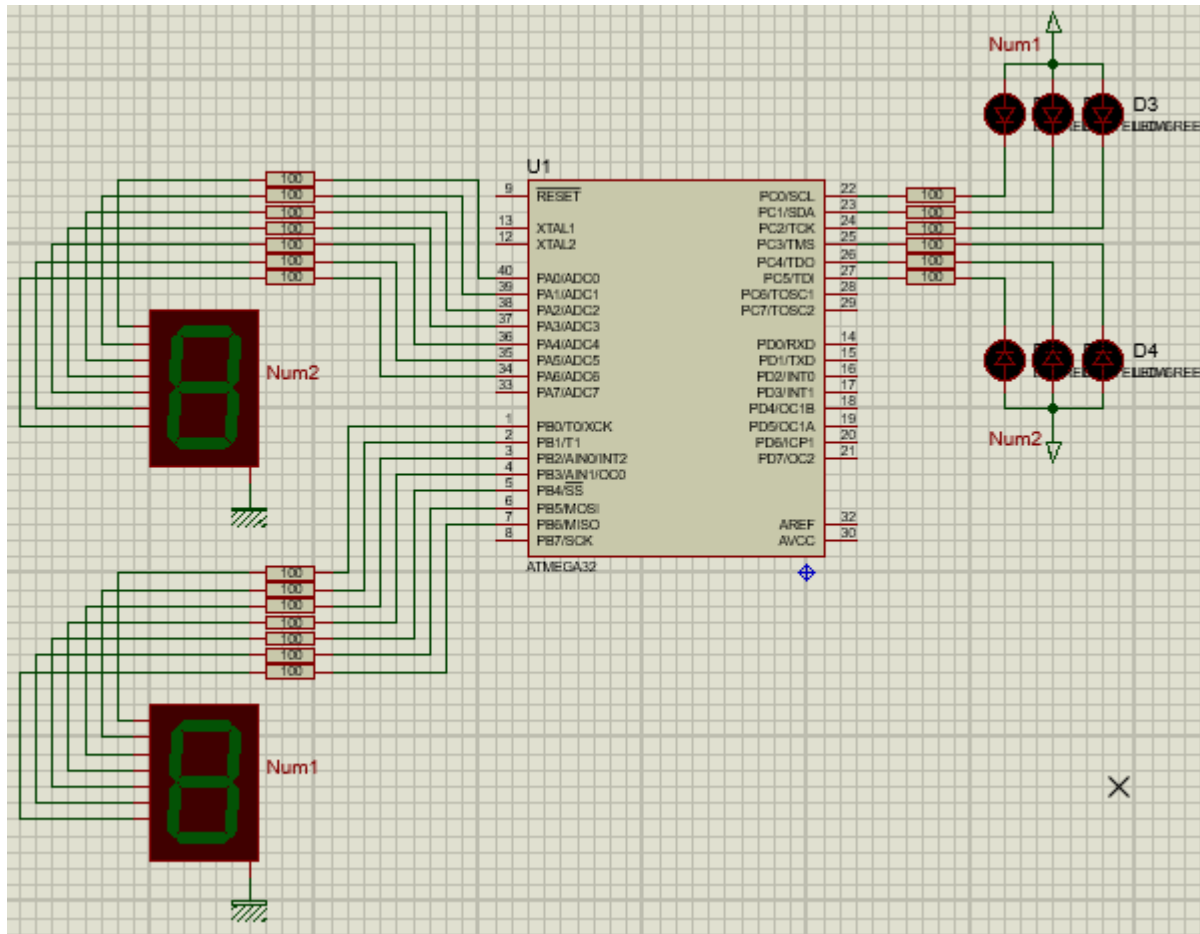
آزمایش۲

سوال ۱)

```
39    PORTC = 0xff;
40
41    while (1)
42        {
43        PORTC.0 = 0;
44        PORTC.3 = 0;
45        delay_ms(8000);
46        PORTC.3 = 1;
47        PORTC.4 = 0;
48        delay_ms(2000);
49        PORTC.0 = 1;
50        PORTC.4 = 1;
51
52        PORTC.5 = 0;
53        PORTC.2 = 0;
54        delay_ms(8000);
55        PORTC.2 = 1;
56        PORTC.1 = 0;
57        delay_ms(2000);
58        PORTC.5 = 1;
59        PORTC.1 = 1;
60
61        }
```

```c
void main(void)
{

char seg[] = {0x3f,0x6,0x5b,0x4f,0x66,0x6d,0x7d,0x7,0x7f,0x6f} ;
int i;


// Port A initialization
// Function: Bit7=Out Bit6=Out Bit5=Out Bit4=Out Bit3=Out Bit2=Out Bit1=Out Bit0=Out
DDRA=(1<<DDA7) | (1<<DDA6) | (1<<DDA5) | (1<<DDA4) | (1<<DDA3) | (1<<DDA2) | (1<<DDA1) | (1<<DDA0);
// State: Bit7=0 Bit6=0 Bit5=0 Bit4=0 Bit3=0 Bit2=0 Bit1=0 Bit0=0
PORTA=(0<<PORTA7) | (0<<PORTA6) | (0<<PORTA5) | (0<<PORTA4) | (0<<PORTA3) | (0<<PORTA2) | (0<<PORTA1) | (0<<PORTA0);

// Port B initialization
// Function: Bit7=Out Bit6=Out Bit5=Out Bit4=Out Bit3=Out Bit2=Out Bit1=Out Bit0=Out
DDRB=(1<<DDB7) | (1<<DDB6) | (1<<DDB5) | (1<<DDB4) | (1<<DDB3) | (1<<DDB2) | (1<<DDB1) | (1<<DDB0);
// State: Bit7=0 Bit6=0 Bit5=0 Bit4=0 Bit3=0 Bit2=0 Bit1=0 Bit0=0
PORTB=(0<<PORTB7) | (0<<PORTB6) | (0<<PORTB5) | (0<<PORTB4) | (0<<PORTB3) | (0<<PORTB2) | (0<<PORTB1) | (0<<PORTB0);

// Port C initialization
// Function: Bit7=Out Bit6=Out Bit5=Out Bit4=Out Bit3=Out Bit2=Out Bit1=Out Bit0=Out
DDRC=(1<<DDC7) | (1<<DDC6) | (1<<DDC5) | (1<<DDC4) | (1<<DDC3) | (1<<DDC2) | (1<<DDC1) | (1<<DDC0);
// State: Bit7=0 Bit6=0 Bit5=0 Bit4=0 Bit3=0 Bit2=0 Bit1=0 Bit0=0
```

```
50    while (1)
51    {
52        PORTC = 0xff;
53
54        PORTC.0 = 0;
55        PORTC.3 = 0;
56        for(i=7;i>=0;i--){
57            PORTA = seg[i];
58            PORTB = seg[i+2];
59            delay_ms(1000);
60        }
61
62        PORTC.3 = 1;
63        PORTC.4 = 0;
64        for(i=1;i>=0;i--){
65            PORTA = seg[i];
66            PORTB = seg[i];
67            delay_ms(1000);
68        }
69
70        PORTC.4 = 1;
71        PORTC.0 = 1;
72        PORTC.5 = 0;
73        PORTC.2 = 0;
74        for(i=7;i>=0;i--){
75            PORTA = seg[i+2];
76            PORTB = seg[i];
77            delay_ms(1000);
78        }
79
80        PORTC.2 = 1;
81        PORTC.1 = 0;
82        for(i=1;i>=0;i--){
83            PORTA = seg[i];
84            PORTB = seg[i];
85            delay_ms(1000);
86        }
87
88    }
89 }
90
```