4b

To demonstrate interfacing of seven-segment LED display and generate counting from 0 to 99 with fixed time delay.

Algorithm 1. Configure port 1 as output port.

2. Set P2^0 and P2^1 as select digit port pins to select the unit and tens place on seven segment display interface.

3. Set up look up table for displaying digits 0 to 9 on seven segment display interface.

4. Select the unit's place display device.

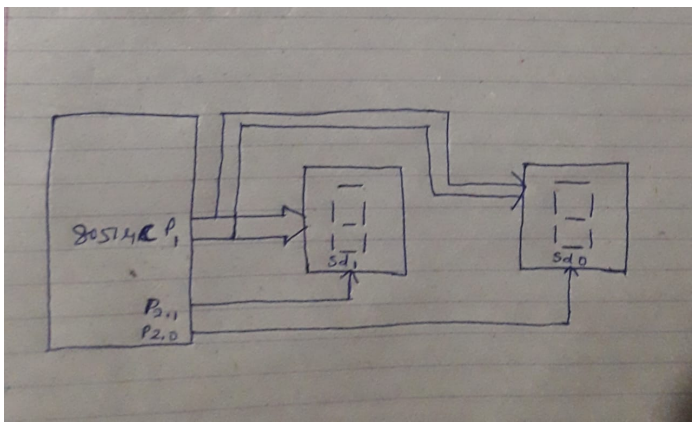
5. Send the values of 0 to display.

6. Select the ten's place device

7. Send the value of 0 to display.

8. Repeat the steps from 4 to7 for value 1to9 at unit's and ten's place.

Hardware connections:



Code: #include <reg51.h>

```
unsigned char look_up[] = {0X3f, 0X06, 0X5b, 0X4f, 0X66, 0X6d, 0X7d, 0X07, 0X7f, 0X6f, 0X77,0X7c,
0X39, 0X5e, 0X79, 0X71};     //display digit values stored in character array

void delay(int time);

sbit sd0 = P2^0;  //defining Port 2.0 to select digit in unit's place in 7-segment display

sbit sd1 = P2^1;  //defining Port 2.1 to select digit in ten's place in 7-segment display

void main()

{

while(1)

{

unsigned char i, j;

for(i=0;i<=9;i++)          //loop to display one's place

{

for(j=0;j<=9;j++)   //loop to display ten's place

{

sd0 = 1;

sd1=0;

P1 =look_up[i];

delay(500);

sd0 = 0;

sd1 = 1;

P1 = look_up[j];

delay(500);

}

}

}

}

void delay(int time)
```

```
{
unsigned int i,j;
for(i=0;i<=time;i++)
for(j=0;j<=1275;j++);
}
```