**Objective:**

To design a microcontroller circuit using LM016L LCD.

**Instrument:**

1. PIC16F873 (1)
2. LM016L LCD (1)
3. Button(s) (2)

**Source code:**

sbit LCD\_RS at RB4\_bit;

sbit LCD\_EN at RB5\_bit;

sbit LCD\_D4 at RB0\_bit;

sbit LCD\_D5 at RB1\_bit;

sbit LCD\_D6 at RB2\_bit;

sbit LCD\_D7 at RB3\_bit;

sbit LCD\_RS\_Direction at TRISB4\_bit;

sbit LCD\_EN\_Direction at TRISB5\_bit;

sbit LCD\_D4\_Direction at TRISB0\_bit;

sbit LCD\_D5\_Direction at TRISB1\_bit;

sbit LCD\_D6\_Direction at TRISB2\_bit;

sbit LCD\_D7\_Direction at TRISB3\_bit;

void main()

{

trisb=0b00000000;

portb =0b00000000;

trisc=0b00000011;

portc =0b00000000;

Lcd\_Init();

Lcd\_Cmd(\_LCD\_CURSOR\_OFF);

Lcd\_out(1,1, " P U C");

while(1)

{

if(portc==0b00000001)

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_out(1,1,"Name: Rahul");

Lcd\_out(2,1," ID : 367");

}

if(portc==0b00000010)

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_out(1,1," ID : 367");

Lcd\_out(2,1,"Name: Rahul");

}

}

}

**Circuit diagram:**

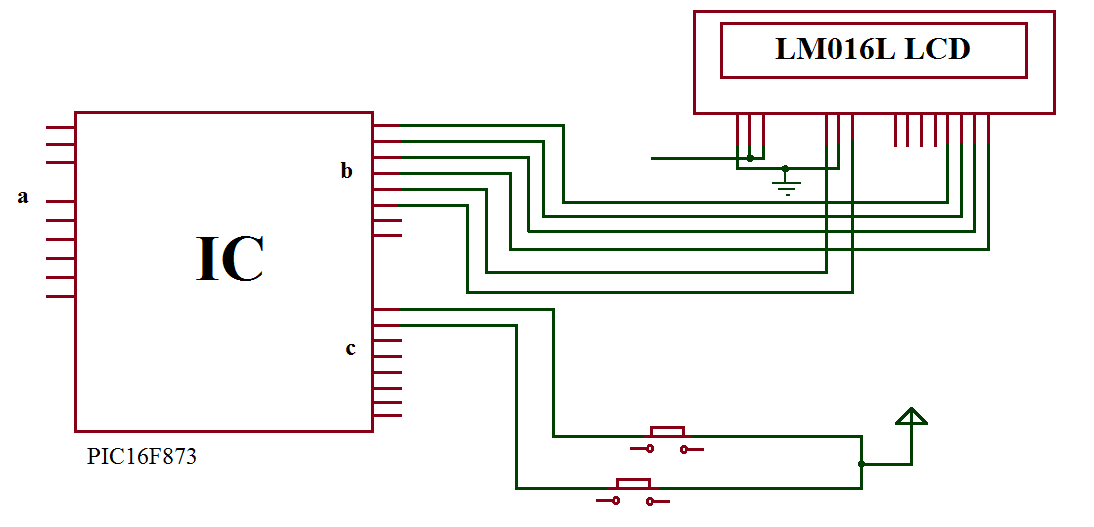
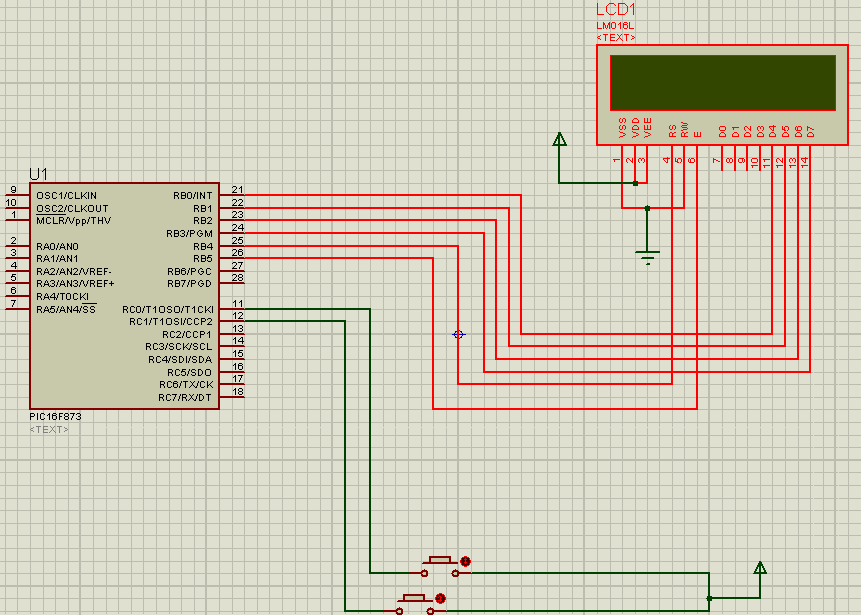
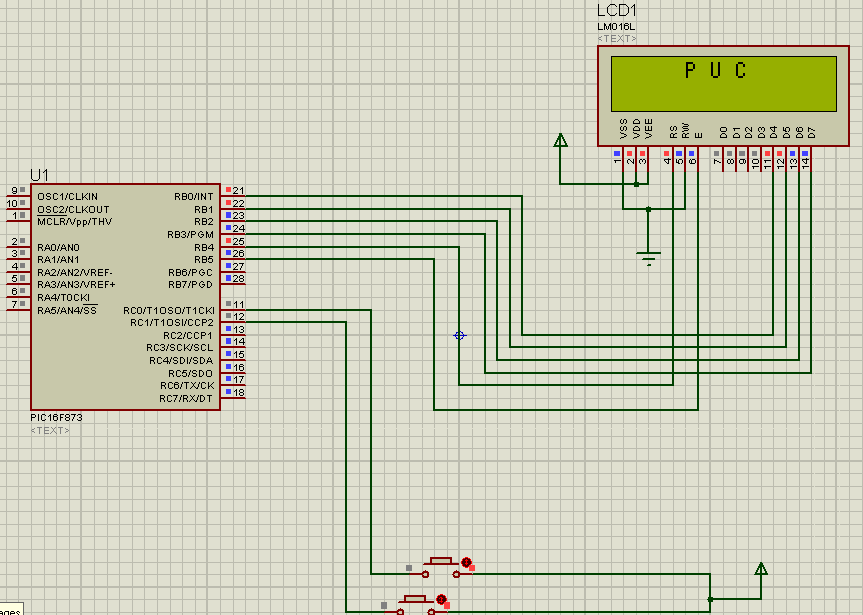
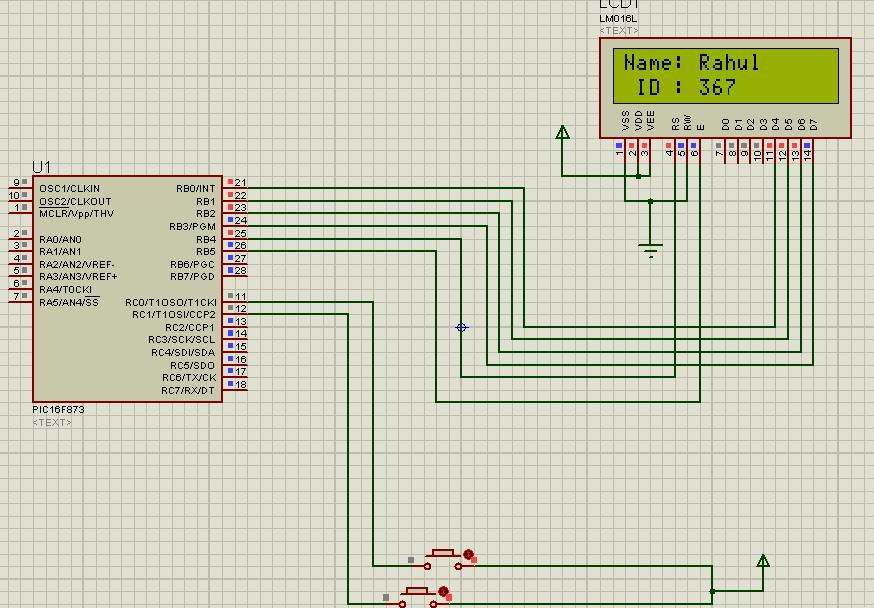
****

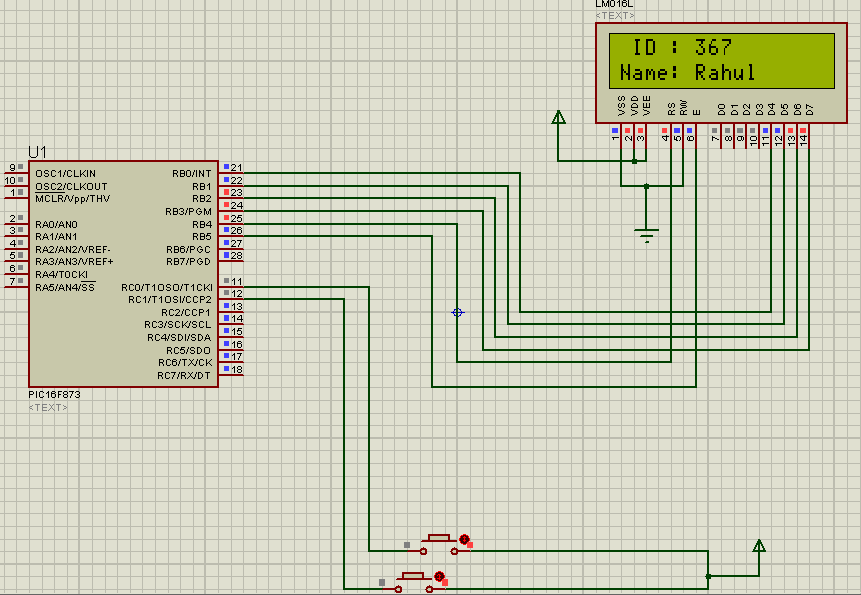
Fig.: Circuit diagram of a microcontroller based LCD display design

**Schematic diagram:**

****

****

****

****

**Conclusion:**

In this experiment we have used a microcontroller named PIC16F873, two buttons and a LCD (LM016L) for design. Finally we have shown some text as like name of university, students name & ID etc. in the above LCD which is done by respective use of button 1 & 2 and both button works exactly reverse to each other.