Code:

// LCD module connections

sbit LCD\_RS at RD2\_bit;

sbit LCD\_EN at RD3\_bit;

sbit LCD\_D4 at RD4\_bit;

sbit LCD\_D5 at RD5\_bit;

sbit LCD\_D6 at RD6\_bit;

sbit LCD\_D7 at RD7\_bit;

sbit LCD\_RS\_Direction at TRISD2\_bit;

sbit LCD\_EN\_Direction at TRISD3\_bit;

sbit LCD\_D4\_Direction at TRISD4\_bit;

sbit LCD\_D5\_Direction at TRISD5\_bit;

sbit LCD\_D6\_Direction at TRISD6\_bit;

sbit LCD\_D7\_Direction at TRISD7\_bit;

// End LCD module connections

void main()

{

int a;

char txt[7];

Lcd\_Init();

Lcd\_Cmd(\_LCD\_CLEAR); // Clear display

Lcd\_Cmd(\_LCD\_CURSOR\_OFF); // Cursor off

TRISB = 0b00010000; //RB4 as Input PIN (ECHO)

TRISD.F0 = 1; //Configure 1st bit of PORTD as output

T1CON = 0x10; //Initialize Timer Module

do

{

if(PORTD.F0 == 0)

{

Delay\_ms(100);

if(PORTD.F0 ==0)

{

TMR1H = 0; //Sets the Initial Value of Timer

TMR1L = 0; //Sets the Initial Value of Timer

PORTB.F0 = 1; //TRIGGER HIGH

Delay\_us(10); //10uS Delay

PORTB.F0 = 0; //TRIGGER LOW

while(!PORTB.F4); //Waiting for Echo

T1CON.F0 = 1; //Timer Starts

while(PORTB.F4); //Waiting for Echo goes LOW

T1CON.F0 = 0; //Timer Stops

a = (TMR1L | (TMR1H<<8)); //Reads Timer Value

a = a/58.82; //Converts Time to Distance

a = a + 1; //Distance Calibration

if(a>=2 && a<=400) //Check whether the result is valid or not

{

IntToStr(a,txt);

Ltrim(txt);

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Distance = ");

Lcd\_Out(1,12,txt);

Lcd\_Out(1,15,"cm");

}

else

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Out of Range");

}

Delay\_ms(400);

}

}

}while(1);

}

Simulation:



