**Input:**

/\* Calculations

\* Fosc = 48MHz

\*

\* PWM Period = [(PR2) + 1] \* 4 \* TMR2 Prescale Value / Fosc

\* PWM Period = 200us

\* TMR2 Prescale = 16

\* Hence, PR2 = 149 or 0x95

\*

\* Duty Cycle = 10% of 200us

\* Duty Cycle = 20us

\* Duty Cycle = (CCPR1L:CCP1CON<5:4>) \* TMR2 Prescale Value / Fosc

\* CCP1CON<5:4> = <1:1>

\* Hence, CCPR1L = 15 or 0x0F

\*/

#include<p18f4550.h>

unsigned char count=0;

bit TIMER,SPEED\_UP;

void timer2Init(void)

{

T2CON = 0b00000010; //Prescalar = 16; Timer2 OFF

PR2 = 0x95; //Period Register

}

void delay(unsigned int time)

{

unsigned int i,j;

for(i=0;i<time;i++)

for(j=0;j<1000;j++);

}

void main(void)

{

unsigned int i;

TRISCbits.TRISC1 = 0; //RC1 pin as output

TRISCbits.TRISC2 = 0; //CCP1 pin as output

LATCbits.LATC1 = 0;

CCP1CON = 0b00111100; //Select PWM mode; Duty cycle LSB CCP1CON<4:5> = <1:1>

CCPR1L = 0x0F; //Duty cycle 10%

timer2Init(); //Initialise Timer2

TMR2ON = 1; //Timer2 ON

while(1) //Loop forever

{

for(i=15;i<150;i++)

{

CCPR1L = i;

delay(100);

}

for(i=150;i>15;i--)

{

CCPR1L = i;

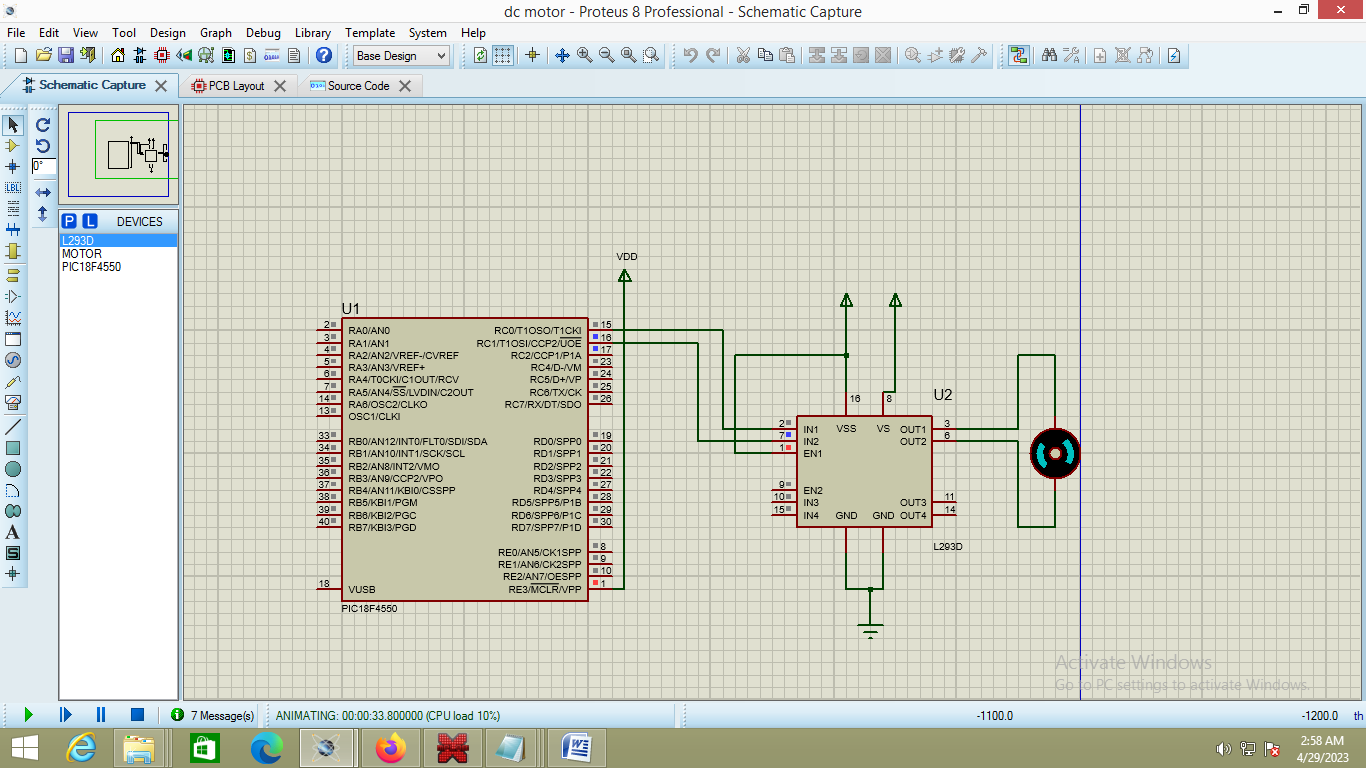
delay(100);

}

}

}

**Output:**

****