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**MICROCONTROLLERS**

**AND APPLICATIONS**

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# Project -Interfacing PIC18f4520 with 7 Segment LCD Display and Stepper Motor

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# Interfacing PIC18f4520 with 7 Segment LCD Display and Stepper Motor

**Title:** Interfacing PIC18f4520 with 7 Segment LCD Display and Stepper Motor

**Introduction:**

In this project we have interfaced with a 7 segment LCD display and a stepper motor.

The LCD display is interfaced using D port, all 9 numbers are displayed.

We have used the ULN 2003A motor driver for interfacing the unipolar stepper motor. Port B is used.

This can act as an automating segregation system in factories where after a certain count the motor rotates and the object gets segregated.

**Microcontroller Used:** PIC18f4520

**Peripheral(s) used:**

1. Stepper Motor
2. 7-segment LCD Display

**Registers used:**

We have used TRIS B, TRIS D and PORT B registers.

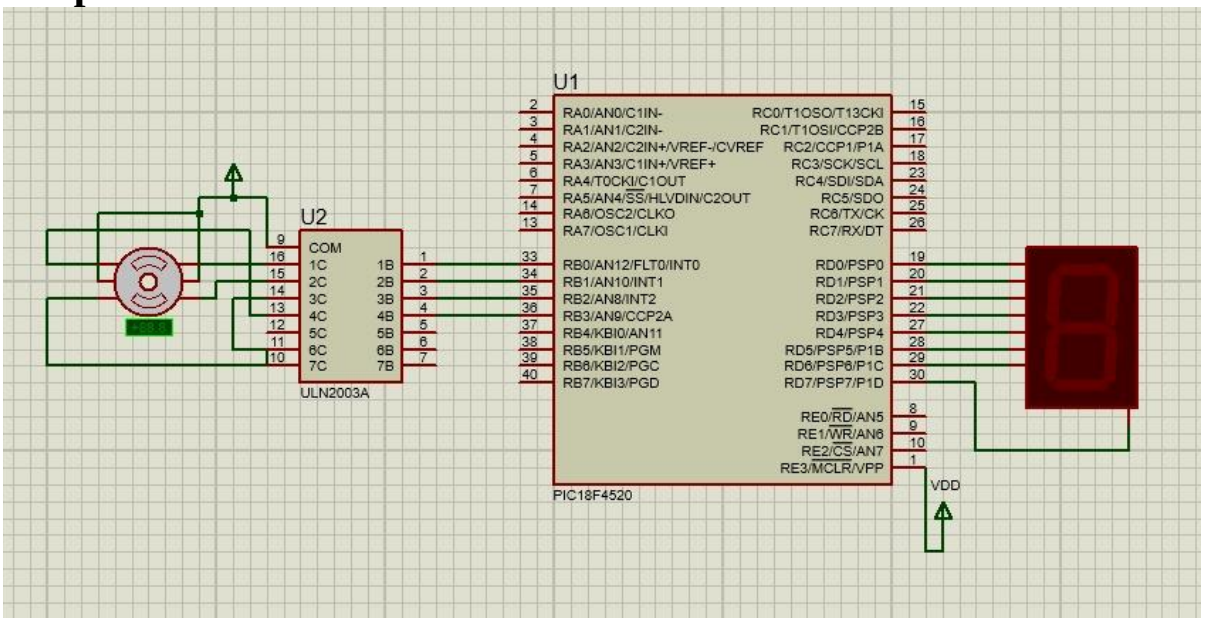
**Program:**

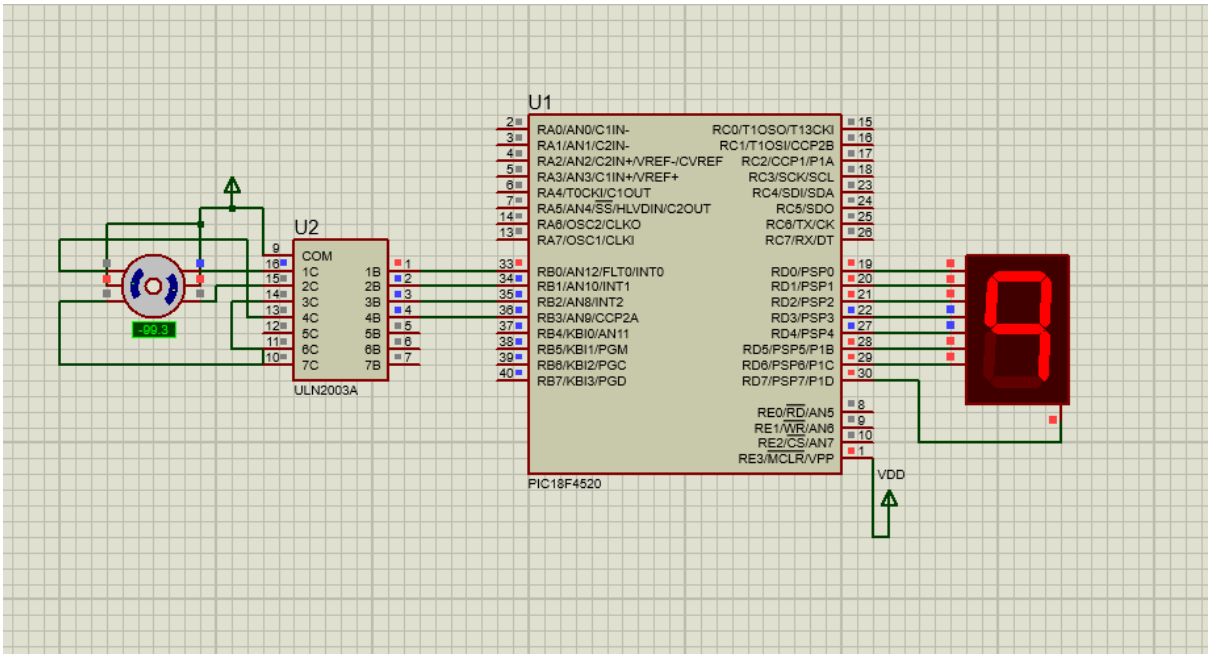
```
# include <xc.h>

#define _XTAL_FREQ 20000000

// BEGIN CONFIG

#pragma config BOREN = ON

#pragma config LVP = OFF

//END CONFIG
```

```
void main(void) {
    TRISD = 0;
    LATD = 0;
    TRISB = 0x00;
PORTB = 0x00;
        while(1){
        LATD = 0X3F;
        __delay_ms(200);
        LATD = 0X06;
        __delay_ms(200);
        LATD = 0x5B;
        __delay_ms(200);
        LATD=0X4F;
        __delay_ms(200);
        LATD=0X66;
        __delay_ms(200);
        LATD=0X6D;
        __delay_ms(200);
        LATD=0X7D;
        __delay_ms(200);
        LATD=0X07;
        __delay_ms(200);
        LATD=0X7F;
        __delay_ms(200);
        LATD=0X67;
```

```
        __delay_ms(200);
        PORTB = 0b0001;
        __delay_ms(200);
        PORTB = 0b0010;
        __delay_ms(200);
        PORTB = 0b0100;
        __delay_ms(200);
        PORTB = 0b1000;
        __delay_ms(200);
        PORTB = 0b1000;
        __delay_ms(200);
        PORTB = 0b0100;
        __delay_ms(200);
        PORTB = 0b0010;
        __delay_ms(200);
        PORTB = 0b0001;
        __delay_ms(200);
    }
    return;
}
```

## Output:




## Inference:

Thus in this project we have interfaced with a 7 segment LCD display and a stepper motor using PIC18F4520 microcontroller on Proteus using MPLAB IDE.