Experiment no: 02

Name of the experiment: Write a Program to count 0 to 9 in 7 segment display using PIC Microcontroller.

objective(s):

(i) ~~Learning~~ ~~no how~~ To design a 7 segment display using PIC microcontroller.

(ii) ~~Understanding~~ To understand 7 segment displays Principle.

Theory: seven segment displays are the output display device that provides a way to display information in the form of images or text or decimal numbers which is an alternative to the more complex dot matrix displays. It is widely used in digital clocks, basic calculations, electronic meters and other electronic devices that display numerical information.

According to the type of application, there are two types of configuration of seven segment display.

(i) common anode display.
(ii) common cathode display.

(i) In common cathode seven segment displays, all the cathode connections of LED segments are connected together to logic 0 or ground. We use logic 1 through a current limiting resistor to forward bias the individual anode terminals a to g.

(ii) Whereas all the anode connections of the LED segments are connected together to logic 1 in a common anode seven segment display. We use logic 0 through a current limiting resistor to the cathode of a particular segment a to g.

Common anode segment displays are more popular than cathode seven segment displays because logic circuits can sink more current than they can source and it is the same as connecting LED's in reverse

Seven segment displays are used in,
Digital clocks, clock radios, calculators, speedometer.
etc.

Apparatus Required: PIC16F877A, capacitor, resistor, crystal, common ~~ando~~ anode 7 segment.

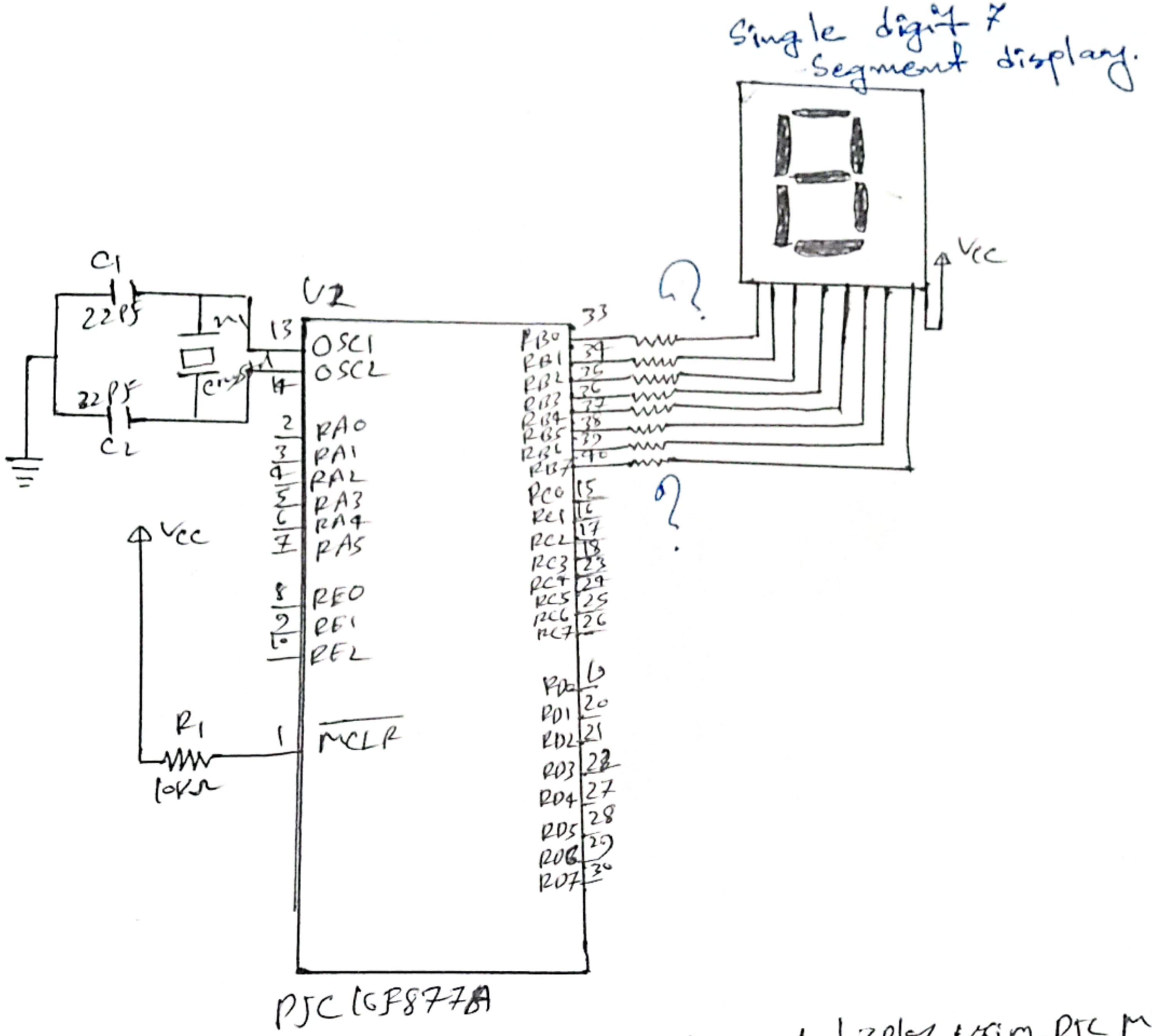

fig8 to count 0 to 9 in 7 segment disply using PIC microcontroller.

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Source code:

```
void main()
{ int i, o;
  Char arr [ ]; {0X40, 0X79, 0X24, 0X19, 0X17, 0X02,
                 0X78, 0X00, 0X10}

   TRISB = 0X00;
   portb = 0Xff;
   While(1)
   {
     port b. arr[ i]
     delay. ms(500)
     i++;
     if (i=10)
        i=0
   }
}
```