Experiment no: 1

Name of the experiment: Blinking LED using PIC microcontroller.

Objective(s):
   (i) Designing To design a LED blinking circuit
   (ii) understanding To understand the circuit diagram of PIC microcontroller.

Theory: LED's are small powerful light that are used in many different application. It is as simple as light turning on and off. LED is an electronic device, which emits light when the current passes through its terminals.

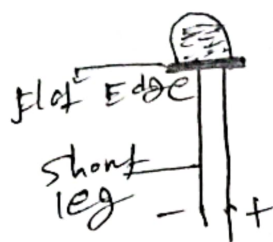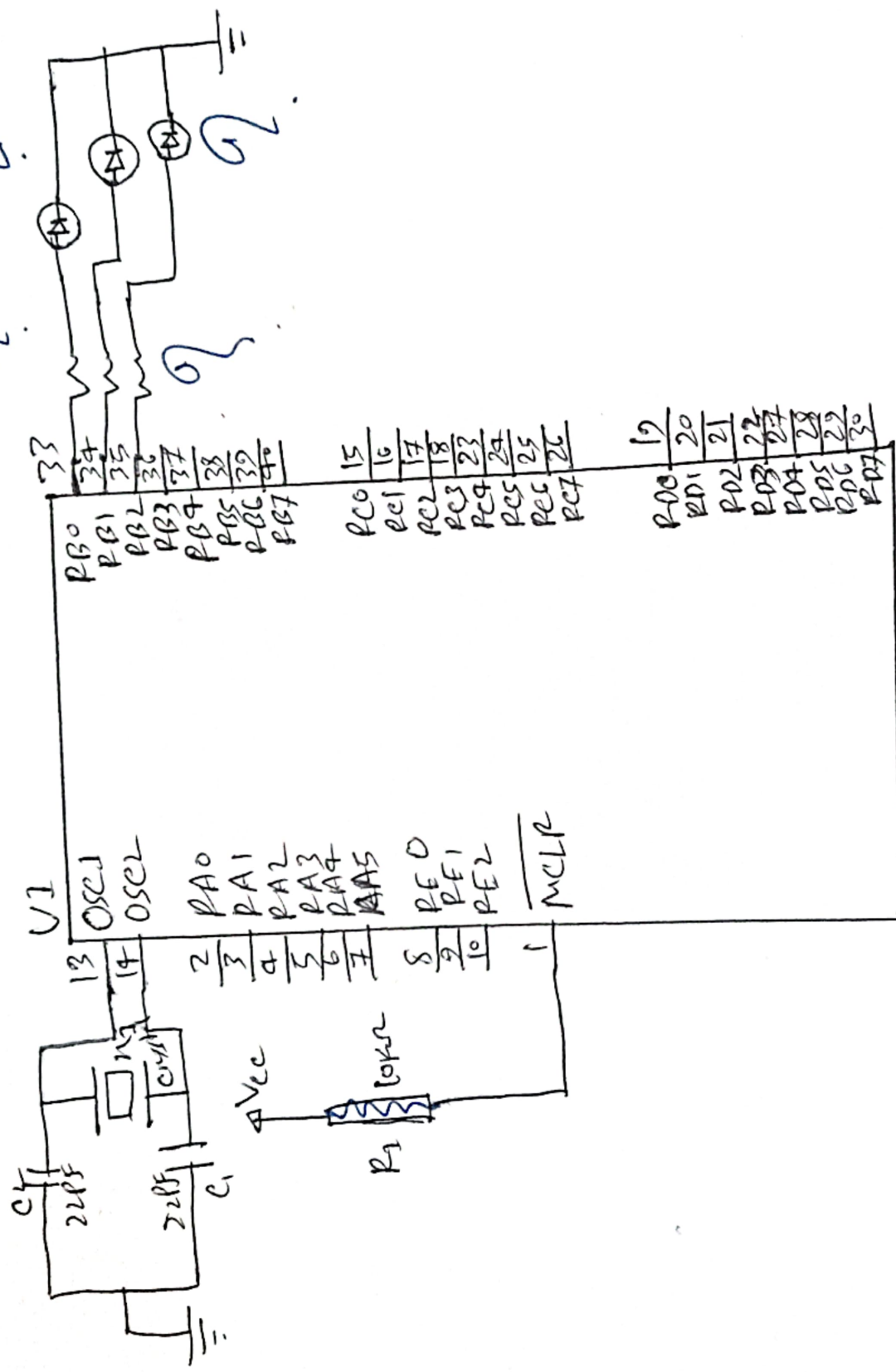An LED is a two-terminal device. The two terminal are called as cathode and Anode.

Flat Edge
short leg — | | +

Fig; a structure of LED

Apparatus required: LED, PIC16F877A, power supply, resistor, crystal oscillator, capacitor.

V1

13 OSC1
14 OSC2

2 PA0
3 PA1
4 PA2
5 PA3
6 PA4
7 PA5

8 RE0
9 RE1
10 RE2

1 $\overline{MCLR}$

33 RB0
34 RB1
35 RB2
36 RB3
37 RB4
38 RB5
39 RB6
40 RB7

15 RC0
16 RC1
17 RC2
18 RC3
23 RC4
24 RC5
25 RC6
26 RC7

19 RD0
20 RD1
21 RD2
22 RD3
27 RD4
28 RD5
29 RD6
30 RD7

PIC16F877A

C1 22pF
C1 22pF
crystal

Vcc
P1 10kΩ

blinking circuit

fig 1 for LED Blinking LED using PIC microcontroller.

source code:

```
void main()
{
    TRISB = 0X00;         // Set portb as output.

    TRISB
    PORTB = 0X00;         // Initialize portb as
                          //         off state.

    while(1);
    {
        Portb.f0 = 0XFF;
        delay.ms (400);
        Port4b.f0 = 0X00;
        Port4b.d1 = 0;
        Portb.d2 = 0;
        delay.ms (600);
    }
}
```