MPMC PROJECT

AIM:

Blinking of led's in a certain pattern by using picf18f4550

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WORKING OF OUR PROJECT:

The main loop of the code continuously turns on two LEDs once at a time for 500 milliseconds and then the first bulb turns off immediately but the second bulb will be still glowing. Next, the second bulb and third bulb glow for 500 milliseconds. Then all the bulbs turn off for 1sec and the process is continued repeatedly.

CIRCUIT DIAGRAM:

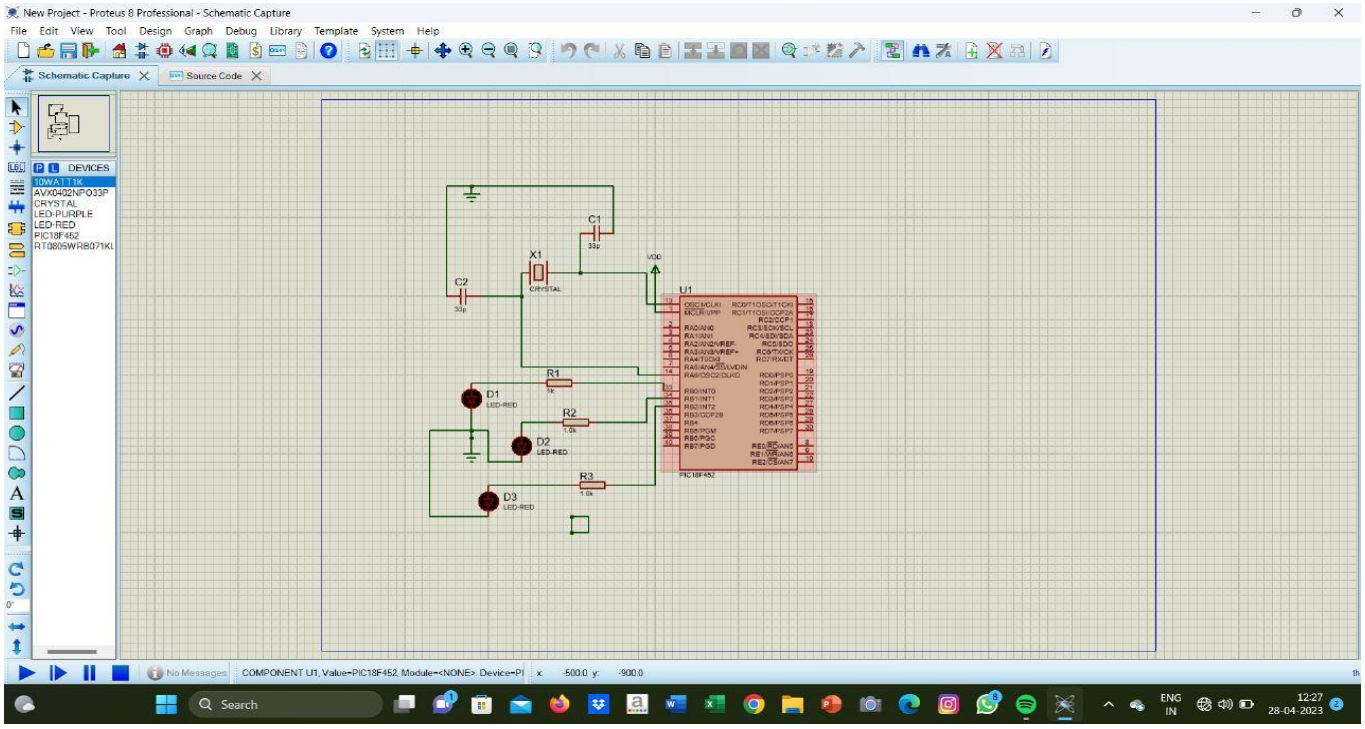
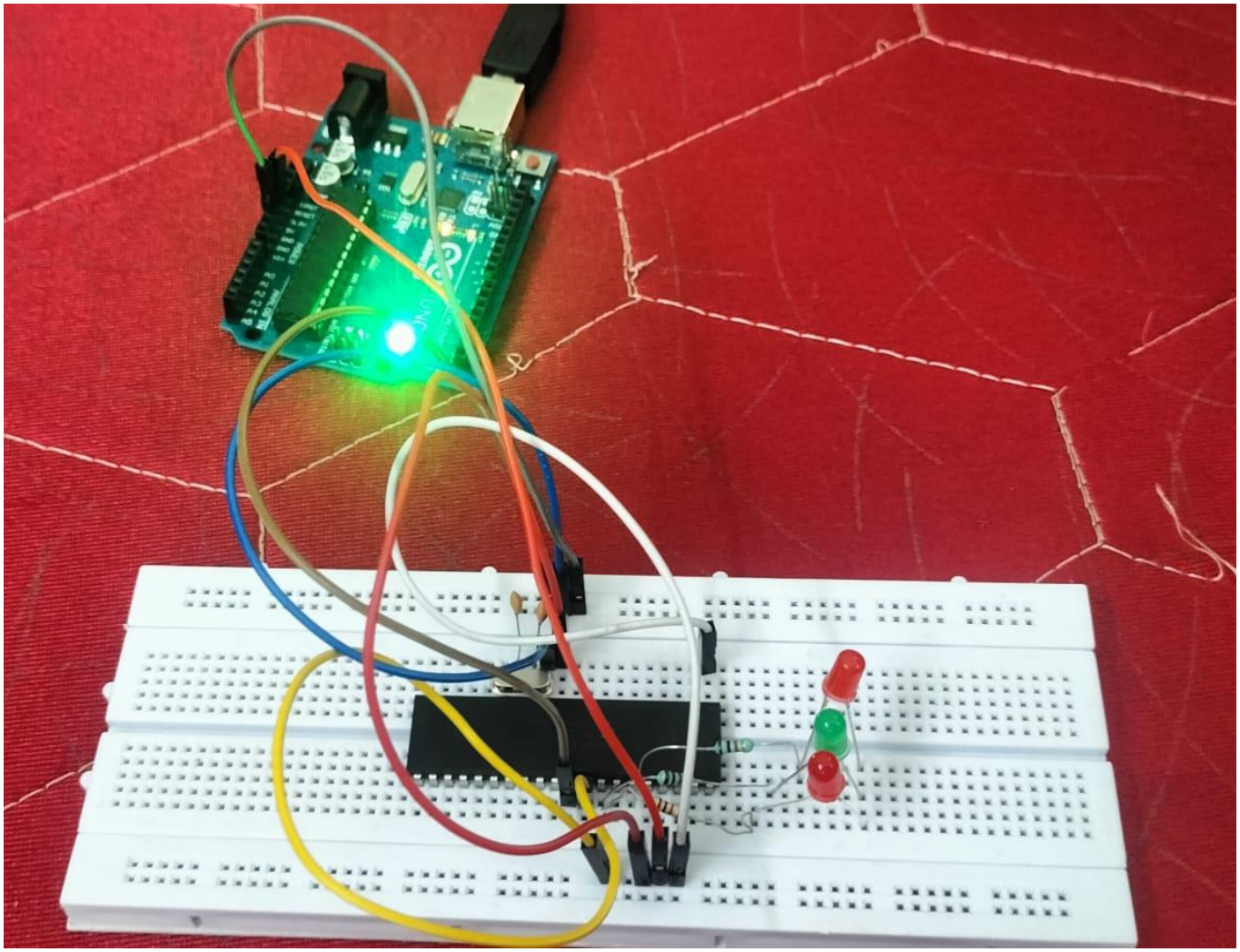


IMAGE OF EXPERIMENTAL SETUP:



PROGRAM:

```
    D1 EQU 0x2      ; use location 02 as counter
    D2 EQU 0x3      ; use location 03 as counter
    D3 EQU 0X4      ; use location 04 as counter

        ORG 0
REPEAT  CLRF TRISB    ;make PORTB as output

        BSF PORTB,0    ; make RB0 high
        BSF PORTB,1    ; Make RB1 high
        CALL DELAY     ;calling delay function
        BTG PORTB,0    ; toggle RD0 bit
        BSF PORTB,2    ; Make RB2 high
        CALL DELAY; calling delay function
        CLRF PORTB    ;PORTB='00000000'
        CALL DELAY; calling delay function
        BRA  REPEAT    ; branch to repeat



DELAY
        MOVLW D'25'    ;WREG=25D
        MOVWF D1       ;move value 10D to D1 file register
BACK    MOVWF D'100'    ;WREG=100D
        MOVWF D2       ;move value 80D to D1 file register
AGAIN MOVWF D'200'   ;WREG=200D
        MOVWF D3       ;move value 100D to D1 file register
```

```
HERE   NOP
       NOP
       DECF D3,F      ;decrement D3
       BNZ HERE       ;branch to HERE if z=0
       DECF D2,F      ;decrement D2
       BNZ AGAIN      ;branch to AGAIN if z=0
       DECF D1,F      ;decrement D1
       BNZ BACK       ;branch to BACK if z=0
       RETURN
```

CALCULATION:

Crystal frequency=4MHZ

CLOCK FREQUENCY =4/4 =1MHZ;

TIME TAKEN FOR EACH INSTRUCTION =1/(1MHZ)=1 us

*Time delay=no of instructions*time delay per instructionTIME*

DELAY =0.5 seconds

CONCLUSION:

We Performed blinking of LEDs in a pattern by PIC18F4550 microcontroller. We got familiarized with using of PIC18F4550 microcontroller, Proteus, and MPLAB.