**Generation of square wave of 10ms using time and interrupt**.

#include<p18f4520.h>

void msDelay()

{

T0CON =0x08;//Timero, 16 bit with no prescaler

TMR0H =0x9E; //Load Values

TMR0L =0x58;

T0CONbits.TMR0ON =1; //Turn On Timer

while(INTCONbits.TMR0IF==0); //Wait until Overriow

T0CONbits.TMR0ON =0; //Clear Timer

INTCONbits.TMR0IF =0; //Clear Flag

}

void msDelay();

void main(void)

{

TRISD=0x00; //Set PORTB OUTPUT

PORTD= 0x00; //Load Default value

while (1)

{

PORTD = 0xFF; //Toggle ontper after every 10ms

msDelay();

PORTD = 0x00; //Toggle ontper after every 10ms

msDelay();

}

}

**Code: Generation of square wave using timer0 and interrupt ISR**

#include <p18f4520.h>

#pragma config OSC=HS

#pragma config PWRT=OFF

#pragma config WDT=OFF

#pragma config DEBUG=ON, LVP=OFF

void main(void);

void ISR(void);

void msdelay(unsigned int itime);

unsigned int data, I;

void main()

{

TRISD = 0x00; // Configure PORTD as output

PORTD = 0x00; // Initialize PORTD to 0

T0CON = 0x06; // Set up timer with prescaler 1:128

TMR0H = 0x00; // Initial value of timer high byte

TMR0L = 0x00; // Initial value of timer low byte

INTCONbits.TMR0IF = 0; // Clear timer overflow interrupt flag

INTCONbits.TMR0IE = 1; // Enable Timer0 interrupt

T0CONbits.TMR0ON = 1; // Turn on Timer0

INTCONbits.PEIE = 1; // Enable peripheral interrupts

INTCONbits.GIE = 1; // Enable global interrupts

while (1)

{

PORTD=0x07;

msdelay(100);

PORTD=0x00;

msdelay(100);

}

}

// Interrupt Service Routine

#pragma code InterruptVector = 0x08

void InterruptVector(void)

{

\_asm

goto ISR // Jump to interrupt routine

\_endasm

}

#pragma code

#pragma interrupt ISR

void ISR(void)

{

if (INTCONbits.TMR0IF == 1) // Check if Timer0 overflow flag is set

{

INTCONbits.TMR0IF = 0; // Clear Timer0 interrupt flag

PORTD = 0x80; // Set PORTD to 0x55

msdelay(100); // Delay of 60 ms

PORTD= 0x00; // Set PORTD to 0xAA

msdelay(100); // Delay of 60 ms

}

}

// Millisecond delay function

void msdelay(unsigned int itime)

{

unsigned int i, j;

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

{

for (j = 0; j < 165; j++); // Roughly 1 ms delay

}

}

