



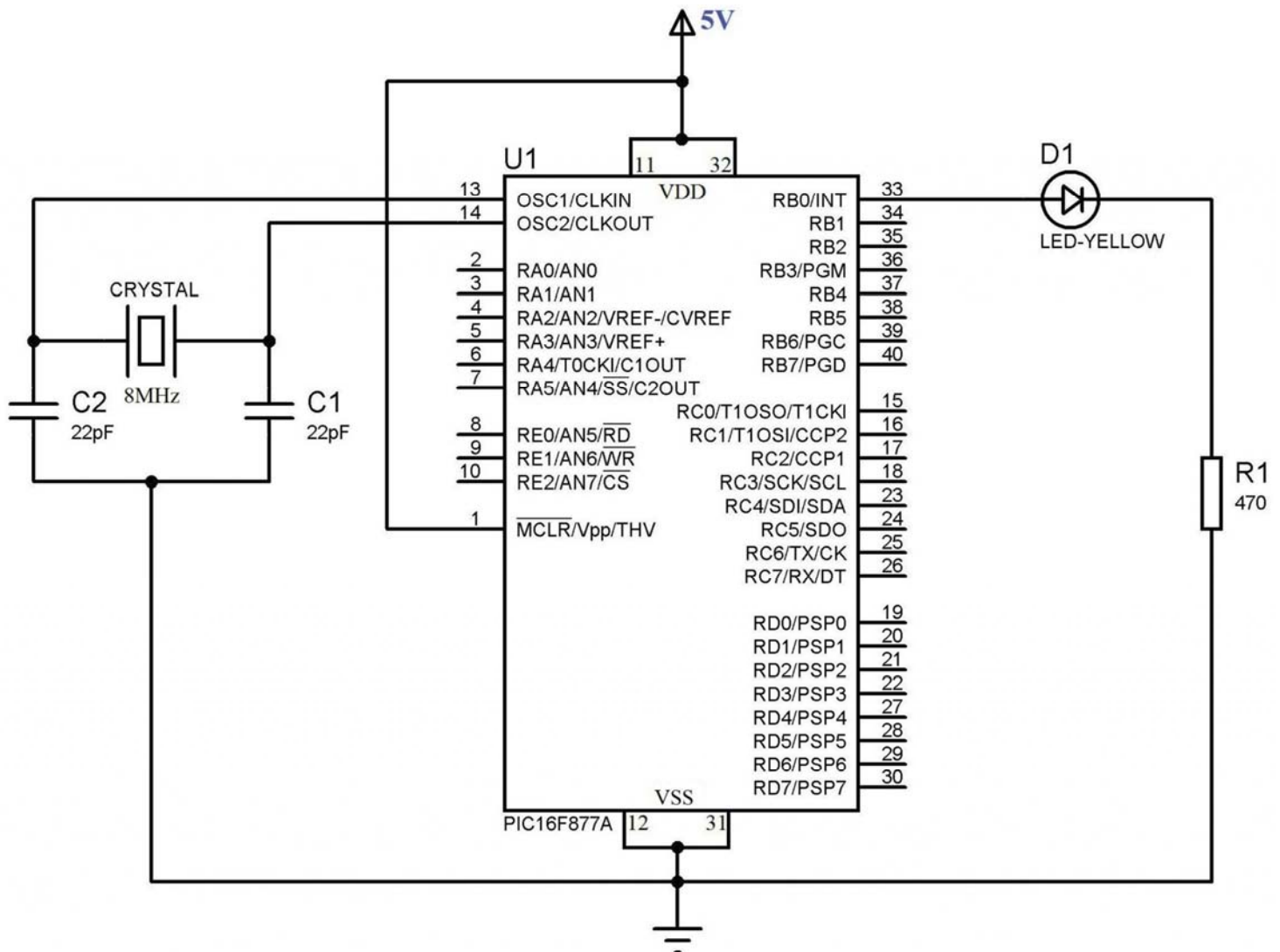
Lecture (06)

16F877a (2)

By:

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16f877 assembly programming

- Build a delay

```
DELAY
MOVLW d'255'
MOVWF 0x4f
MOVWF 0x4E
DELAY_loop2
DELAY_loop1
DECFSZ 0x4f
goto DELAY_loop1
DECFSZ 0x4e
goto DELAY_loop2
RETURN
```

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LedFlasher.asm

```
LIST P=16f877a
include "p16F877a.inc"
__config_FOSC_XT & _WDTE_OFF
& _PWRTE_OFF & _BOREN_OFF &
_LVP_OFF & _CPD_OFF &
_WRT_OFF & _CP_OFF
ORG 0
GOTO start
ORG 4
GOTO start
start
MOVLW H'00'
BSF STATUS,RP0
MOVWF TRISB
MOVWF TRISA
BCF STATUS,RP0
LOOP
MOVLW B'00000000'
```

```
movWf PORTB
CALL DELAY
MOVLW B'11111111'
MOVWF PORTB
CALL DELAY
GOTO LOOP
DELAY
MOVLW d'255'
MOVWF 0x4f
MOVWF 0x4E
DELAY_loop2
DELAY_loop1
DECFSZ 0x4f
goto DELAY_loop1
DECFSZ 0x4e
goto DELAY_loop2
RETURN
end
```

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PressControlledLedFlasher.asm

```
LIST P=16f877a
include "p16F877a.inc"
__config_FOSC_XT & _WDTE_OFF &
_PWRTE_OFF & _BOREN_OFF &
_LVP_OFF & _CPD_OFF &
_WRT_OFF & _CP_OFF
ORG 0
GOTO start
ORG 4
GOTO start
start
BSF STATUS,RP0
MOVLW H'00'
MOVWF TRISB
MOVLW H'01'
MOVWF TRISD
BCF STATUS,RP0
```

```
LOOP
MOVLW B'00000000'
MOVWF PORTB
CALL DELAY
BTFSC PORTD,RD0
GOTO LOOP
MOVLW B'11111111'
MOVWF PORTB
CALL DELAY
GOTO LOOP
```

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LedChaser.asm

```
LIST P=16f877a
include "p16F877a.inc"
__config_FOSC_XT & _WDTE_OFF
& _PWRTE_OFF & _BOREN_OFF &
_LVP_OFF & _CPD_OFF &
_WRT_OFF & _CP_OFF
ORG 0
GOTO start
ORG 4
GOTO start
start
BSF STATUS,RP0
MOVLW 0X00
MOVWF TRISB
MOVLW 0XFF
MOVWF TRISA
BCF STATUS,RP0
```

```
BCF STATUS, C
LOOP1
MOVLW 0X01
MOVWF PORTB
MOVLW 0X07
MOVWF 0X0C
LEFT
RLF PORTB,W
MOVWF PORTB
call DELAY
DECFSZ 0x0C,f
GOTO LEFT
MOVLW 0X07
MOVWF 0X0C
GOTO LOOP1
```

Reversible Chaser

```
LIST P=16f877a
include "p16F877a.inc"
__config_FOSC_XT & _WDTE_OFF &
_PWRTE_OFF & _BOREN_OFF &
_LVP_OFF & _CPD_OFF & _WRT_OFF &
_CP_OFF
ORG 0
GOTO start
ORG 4
GOTO start
start
    BSF STATUS,RP0
    MOVLW 0X00
    MOVWF TRISB
    MOVLW 0XFF
    MOVWF TRISA
    MOVLW 0X01
    BCF STATUS,RP0
    MOVWF PORTB
    BCF STATUS, C
LOOP1
    MOVLW 0X07
    MOVWF 0X20
LEFT
    RLF PORTB,W
    MOVWF PORTB
    call DELAY
    DECFSZ 0x20,f
    GOTO LEFT
    MOVLW 0X07
    MOVWF 0X20
RIGHT
    RRF PORTB,W
    MOVWF PORTB
    call DELAY
    DECFSZ 0x20,f
    GOTO RIGHT
    GOTO LOOP1
```

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```
DELAY
MOVLW d'255'
MOVWF 0x4f
MOVWF 0x4E
DELAY_loop2
DELAY_loop1
DECFSZ 0x4f
goto DELAY_loop1
DECFSZ 0x4e
goto DELAY_loop2
RETURN

end
```

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**Thanks,..
See you next week (ISA),...**