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;PIC İSMİ;16F877(A)
;PIC FREKANSI;4 MHZ
;DAHİLİ KOMUT CYCLE;1 MHZ
;SİGORTA DURUMU;ON
;WATCHDOG TİMER;OFF
;PROGRAM CALISMASI;
;ACIKLAMA; EEM-332 PROJE QUE-MATIC
;
;***** 0
;***** 0
;

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LIST P=16F877
INCLUDE "P16F877.INC"

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;*****
;*****DEFINE TANIMLAMA BLOGU*****
;*****
;
;*****
;*****MACRO TANIMLAMA BLOGU*****
;*****
;
;*****
;*****ADRES TANIMLAMA BLOGU*****
;*****
CBLOCK    0x20
SAYAC_A
SAYAC_B
SAYAC_C
INDEX
NEXTA1
NEXTA2
SAYAC1
SERIAL_DATA
SERIAL_DATA_COUNTER
ENDC
;*****
;*****GIRIS CIKIS BLOGU*****
;*****
    ORG    0x000
    CLRF PORTA
    CLRF PORTB
    CLRF PORTC
    CLRF PORTD
    CLRF PORTE
    BANK1
    MOVLW    0x07
    MOVWF    ADCON1

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        MOVLW    0xF8
        MOVWF    TRISA
        CLRF     TRISB
        CLRF     TRISC
        CLRF     TRISD
        CLRF     TRISE
        BANK0
        CLRF     PORTA
        CLRF     PORTB
        CLRF     PORTC
        CLRF     PORTD
        CLRF     PORTE
,*****
,
,***** ANA PROGRAM KISMI*****
,
,*****

START
        MOVLW    0xFF
        MOVWF    SAYAC_A
        MOVLW    0xFF
        MOVWF    SAYAC_B
        MOVLW    0xFF
        MOVWF    SAYAC_C
START1
        CALL     TUS_TARA
        CALL     TIMER_KEYPAD
        GOTO     START1

,*****
,
,***** ALT PROG. KISMI*****
,
,*****

TUS_TARA

SATIR0
        MOVLW    0X01
        MOVWF    PORTA
A_BiR                                     ;0.SATIR AKTİF
        BTFSS    PORTA,3
        GOTO     A_iKi
        CALL     TIMER_KEYPAD
A_1
        BTFSC    PORTA,3
        GOTO     A_1
        CALL     TIMER_KEYPAD
        INCF     SAYAC_A,F
        MOVLW    0x0A
        XORWF    SAYAC_A,W
        BTFSC    STATUS,2
        CALL     SIFIRLA_A

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MOVFSAYAC_A,W
CALL SERiAL_DATA_GONDER_1
MOVLW    0x06
MOVWF    SERiAL_DATA
CALL SERiAL_DATA_GONDER_0
RETURN

A_iKi
BTFSSPORTA,4
GOTO A_UC
CALL TIMER_KEYPAD

A_2
BTFSC    PORTA,4
GOTO A_2
CALL TIMER_KEYPAD
iNCF SAYAC_A,F
MOVLW    0x0A
XORWF    SAYAC_A,W
BTFSC    STATUS,2
CALL SIFIRLA_A
MOVFSAYAC_A,W
ANDLW    0x0F
CALL DEC_TABLE
MOVWF    SERiAL_DATA
CALL SERiAL_DATA_GONDER_3
MOVLW    0x06
MOVWF    SERiAL_DATA
CALL SERiAL_DATA_GONDER_2
RETURN

A_UC
BTFSSPORTA,5
GOTO SATIR1
CALL TIMER_KEYPAD

A_3
BTFSC    PORTA,5
GOTO A_3
CALL TIMER_KEYPAD
iNCF SAYAC_A,F
MOVLW    0x0A
XORWF    SAYAC_A,W
BTFSC    STATUS,2
CALL SIFIRLA_A
MOVFSAYAC_A,W
ANDLW    0x0F
CALL DEC_TABLE
MOVWF    SERiAL_DATA
CALL SERiAL_DATA_GONDER_5
MOVLW    0x06
MOVWF    SERiAL_DATA
CALL SERiAL_DATA_GONDER_4
RETURN

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SATIR1
    MOVLW    0X02
    MOVWF    PORTA
B_BiR      ;1.SATIR AKTİF
    BTFSSPORTA,3
    GOTOB_iKi
    CALL TIMER_KEYPAD
B_1
    BTFSC    PORTA,3
    GOTOB_1
    CALL TIMER_KEYPAD
    MOVLW    0x0A
    XORWF    SAYAC_B,W
    BTFSC    STATUS,2
    CALL SIFIRLA_B
    MOVFSAYAC_B,W
    ANDLW    0x0F
    CALL DEC_TABLE
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_1
    MOVLW    0x5B
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_0
    RETURN
B_iKi
    BTFSSPORTA,4
    GOTOB_UC
    CALL TIMER_KEYPAD
B_2
    BTFSC    PORTA,4
    GOTOB_2
    CALL TIMER_KEYPAD
    INCFSAYAC_B,F
    MOVLW    0x0A
    XORWF    SAYAC_B,W
    BTFSC    STATUS,2
    CALL SIFIRLA_B
    MOVFSAYAC_B,W
    ANDLW    0x0F
    CALL DEC_TABLE
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_3
    MOVLW    0x5B
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_2
    RETURN
B_UC
    BTFSSPORTA,5
    GOTOSATIR2
    CALL TIMER_KEYPAD

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B_3
    BTFSC      PORTA,5
    GOTO B_3
    CALL TIMER_KEYPAD
    INCF SAYAC_B,F
    MOVLW      0x0A
    XORWF      SAYAC_B,W
    BTFSC      STATUS,2
    CALL SIFIRLA_B
    MOVFSAYAC_B,W
    ANDLW      0x0F
    CALL DEC_TABLE
    MOVWF      SERiAL_DATA
    CALL SERiAL_DATA_GONDER_5
    MOVLW      0x5B
    MOVWF      SERiAL_DATA
    CALL SERiAL_DATA_GONDER_4
    RETURN

SATIR2
    MOVLW      0X04
    MOVWF      PORTA
C_BiR                      ;2.SATIR AKTİF
    BTFSSPORTA,3
    GOTO C_iKi
    CALL TIMER_KEYPAD

C_1
    GOTO C_1
    CALL TIMER_KEYPAD
    INCF SAYAC_C,F
    MOVLW      0x0A
    XORWF      SAYAC_C,W
    BTFSC      STATUS,2
    CALL SIFIRLA_C
    MOVFSAYAC_C,W
    ANDLW      0x0F
    CALL DEC_TABLE
    MOVWF      SERiAL_DATA
    CALL SERiAL_DATA_GONDER_1
    MOVLW      0x4F
    MOVWF      SERiAL_DATA
    CALL SERiAL_DATA_GONDER_0
    RETURN

C_iKi
    BTFSSPORTA,4
    GOTO C_UC
    CALL TIMER_KEYPAD

C_2
    BTFSC      PORTA,4
    GOTO C_2
    CALL TIMER_KEYPAD

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    INCF SAYAC_C,F
    MOVLW    0x0A
    XORWF    SAYAC_C,W
    BTFSC    STATUS,2
    CALL SIFIRLA_C
    MOVFSAYAC_C,W
    ANDLW    0x0F
    CALL DEC_TABLE
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_3
    MOVLW    0x4F
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_2
    RETURN

C_UC
    BTFSSPORTA,5
    GOTO TUS_TARA
    CALL TIMER_KEYPAD

C_3
    BTFSC    PORTA,5
    GOTO C_3
    CALL TIMER_KEYPAD
    INCF SAYAC_C,F
    MOVLW    0x0A
    XORWF    SAYAC_C,W
    BTFSC    STATUS,2
    CALL SIFIRLA_C
    MOVFSAYAC_C,W
    ANDLW    0x0F
    CALL DEC_TABLE
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_5
    MOVLW    0x4F
    MOVWF    SERIAL_DATA
    CALL SERIAL_DATA_GONDER_4
    RETURN

DEC_TABLE
    ADDWF    PCL,F
    RETLW    0x3F
    RETLW    0x06
    RETLW    0x5B
    RETLW    0x4F
    RETLW    0x66
    RETLW    0x6D
    RETLW    0x7D
    RETLW    0x07
    RETLW    0x7F
    RETLW    0x6F

SERIAL_DATA_GONDER_0

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        MOVLW    0x08
        MOVWF    SERIAL_DATA_COUNTER
SERIAL_DATA_0
        RLF     SERIAL_DATA,F
        BTFSSSTATUS,C
        GOTO D0_0
        DATA_1                ;DATA
        GOTO D0_1
D0_0
        DATA_0                ;DATA
D0_1
        CLOCK_1                ;CLOCK
        CALL TIMER_SERIAL
        CLOCK_0                ;CLOCK
        DECFSZ    SERIAL_DATA_COUNTER,F
        GOTO SERIAL_DATA_0
        LATC0_1
        CALL TIMER_SERIAL
        LATC0_0
        RETURN

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SERIAL_DATA_GONDER_1
        MOVLW    0x08
        MOVWF    SERIAL_DATA_COUNTER
SERIAL_DATA_1
        RLF     SERIAL_DATA,F
        BTFSSSTATUS,C
        GOTO D1_0
        DATA_1                ;DATA
        GOTO D1_1
D1_0
        DATA_0                ;DATA
D1_1
        CLOCK_1                ;CLOCK
        CALL TIMER_SERIAL
        CLOCK_0                ;CLOCK
        DECFSZ    SERIAL_DATA_COUNTER,F
        GOTO SERIAL_DATA_1
        LATC1_1
        CALL TIMER_SERIAL
        LATC1_0
        RETURN

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SERIAL_DATA_GONDER_2
        MOVLW    0x08
        MOVWF    SERIAL_DATA_COUNTER
SERIAL_DATA_2
        RLF     SERIAL_DATA,F
        BTFSSSTATUS,C
        GOTO D2_0
        DATA_1                ;DATA

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        GOTO D2_1
D2_0
    DATA_0                ;DATA
D2_1
    CLOCK_1                ;CLOCK
    CALL TIMER_SERIAL
    CLOCK_0                ;CLOCK
    DECFSZ    SERIAL_DATA_COUNTER,F
    GOTO SERIAL_DATA_2
    LATC2_1
    CALL TIMER_SERIAL
    LATC2_0
    RETURN

SERIAL_DATA_GONDER_3
    MOVLW    0x08
    MOVWF    SERIAL_DATA_COUNTER
SERIAL_DATA_3
    RLF    SERIAL_DATA,F
    BTFSSSTATUS,C
    GOTO D3_0
    DATA_1                ;DATA
    GOTO D3_1
D3_1
    DATA_0                ;DATA
D3_0
    CLOCK_1                ;CLOCK
    CALL TIMER_SERIAL
    CLOCK_0                ;CLOCK
    DECFSZ    SERIAL_DATA_COUNTER,F
    GOTO SERIAL_DATA_3
    LATC3_1
    CALL TIMER_SERIAL
    LATC3_0
    RETURN

SERIAL_DATA_GONDER_4
    MOVLW    0x08
    MOVWF    SERIAL_DATA_COUNTER
SERIAL_DATA_4
    RLF    SERIAL_DATA,F
    BTFSSSTATUS,C
    GOTO D4_0
    DATA_1                ;DATA
    GOTO D4_1
D4_1
    DATA_0                ;DATA
D4_0
    CLOCK_1                ;CLOCK
    CALL TIMER_SERIAL
    CLOCK_0                ;CLOCK

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    DECFSZ    SERiAL_DATA_COUNTER,F
    GOTO SERiAL_DATA_4
    LATC4_1
    CALL TIMER_SERiAL
    LATC4_0
    RETURN

SERiAL_DATA_GONDER_5
    MOVLW     0x08
    MOVWF     SERiAL_DATA_COUNTER
SERiAL_DATA_5
    RLF  SERiAL_DATA,F
    BTFSSSTATUS,C
    GOTOD5_0
    DATA_1           ;DATA
    GOTOD5_1
D5_1
    DATA_0           ;DATA
D5_0
    CLOCK_1           ;CLOCK
    CALL TIMER_SERiAL
    CLOCK_0           ;CLOCK
    DECFSZ    SERiAL_DATA_COUNTER,F
    GOTO SERiAL_DATA_5
    LATC5_1
    CALL TIMER_SERiAL
    LATC5_0
    RETURN

SIFIRLA_A
    MOVLW     0xFF
    MOVWF     SAYAC_A
    iNCF SAYAC_A,F
    RETURN

SIFIRLA_B
    MOVLW     0xFF
    MOVWF     SAYAC_B
    iNCF SAYAC_B,F
    RETURN

SIFIRLA_C
    MOVLW     0xFF
    MOVWF     SAYAC_C
    iNCF SAYAC_C,F
    RETURN

TIMER_SERiAL
    MOVLW     0x05
    MOVWF     SAYAC1
NEXT_LOW_11
    DECFSZ    SAYAC1,F
    GTONEXT_LOW

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        RETURN

TIMER_KEYPAD
    MOVLW    0xFF
    MOVWF    NEXTA1
NEXT1_KEYPAD
    MOVLW    0xFF
    MOVWF    NEXTA2
NEXT2_KEYPAD
    DECFSZ   NEXTA2,F
    GOTO NEXT2_KEYPAD
    DECFSZ   NEXTA1,F
    GOTO NEXT1_KEYPAD
    RETURN

;*****
;*****PROGRAM BITIS KISMI*****
;*****
        END

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