;**I2C Slave Setup**

BANKSEL TRISC

MOVLW B’00011000’ ;SET SDA AND SCL AS INPUTS

MOVWF TRISC

;------ SSPADD REGISTER --------------------------------------

BANKSEL I2CADDRESS

MOVF I2CADDRESS,0

BANKSEL SSPADD

MOVWF SSPADD ;MASTER MODE CLOCK/SLAVE MODE ADDRESS

;------ END SSPADD REGISTER ----------------------------------

;------ SSPCON1 REGISTER -------------------------------------

BANKSEL SSPCON

BCF SSPCON, SSPM0 ;0110 SPI SLAVE MODE, 7 BIT ADDRESS

BSF SSPCON, SSPM1 ;--/

BSF SSPCON, SSPM2 ;-/

BCF SSPCON, SSPM3 ;/

BSF SSPCON, CKP ;IDLE STATE FOR CLOCK IS A LOW LEVEL

BSF SSPCON, SSPEN ;ENABLE SERIAL PORT FOR I2C

;------ END SSPCON1 REGISTER ---------------------------------

;------ SSPCON2 REGISTER -------------------------------------

BANKSEL SSPCON2

BSF SSPCON2, GCEN ;GENERAL CALL ENABLE BIT

;------ END SSPCON2 REGISTER ---------------------------------

;------ SSPSTAT REGISTER --------------------------------------

BANKSEL SSPSTAT

BSF SSPSTAT,SMP ;SET SLEW RATE TO 100K FOR I2C

BSF SSPSTAT,CKE ;ENABLE SMBUS SPECIFIC INPUTS

;------ END SSPSTAT REGISTER ----------------------------------

**;I2C Slave Interrupt**

;====== INTERUPT SERVICE ROUTINE =============================

INTERUPT

MOVWF WSAVE

MOVFW STATUS

MOVWF STATUSSAVE

BANKSEL PIR1

BTFSC PIR1,SSPIF ;I2C INTERRUPT FLAG

CALL RECEIVE ;IF I2C FLAG SET GOTO RECEIVE

MOVF STATUSSAVE,0

MOVWF STATUS

MOVFW WSAVE

RETFIE

;-----RECEIVE INTERRUPT------------------------

RECEIVE

BANKSEL SSPBUF

MOVFW SSPBUF ;I2C BUFFER

BANKSEL SSPSTAT

BTFSS SSPSTAT,D\_A ;CHECK IF LAST BYTE RECEIVED IS ADDRESS

GOTO J1

BANKSEL DATAREC

MOVWF DATAREC ;LOAD DATA FROM I2C BUFFER TO DATAREC

BANKSEL NEWVALUE

BSF NEWVALUE,0 ;IF A NEW VALUE IS RECIEVED, THIS ALLOWS FOR THE SETUP SEQUENCE TO RUN

J1

BANKSEL PIR1

BCF PIR1,SSPIF ;RESET I2C INTERRUPT FLAG

RETURN

;====== END INTERUPT SERVICE ROUTINE ========================