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1    ; *******************************************************************************************
2    ; **   PROGRAM MAKED BY FADISHOP  Card: FADIBUS     http://www.fadishop.eu      FADITECO, S.L.U.  Lleonard García   **
3    ; **   This program is INCREASING EVERY SECOND PORT_1                                                               **
4    ; **   I2C SLAVE ADDRESS IS $ 42                                        SW2(A=0, B=0, C=1)                          **
5    ; **                                                                    SW1(I0=0, I1=0, I2=0, portC=0,  Rpullup=0)  **
6    ; **                                                                                                                **
7    ; *******************************************************************************************
8    #picaxe 28x2
9    ; SETTINGS
10   let dirsB=%10000000      ; 1=output 0=input
11   let dirsC=%00000000      ; 1=output 0=input
12   ; C.3 I2C_SCL
13   ; C.4 I2C_SDA
14   ;adcsetup = %00000000   ; SETTING ANALOG
15   ;setfreq em16           ; Oscillator / external oscillator to 16Mhz.
16   ; DEFINITIONS AND INITIALIZATIONS DEVICES.
17   device_PCA9555N:                                 ;INTERNAL ADDRESS BUS EXPANDER PCA9555N
18   symbol inport_0 = 0                              ; Read register inputs port_0.
19   symbol inport_1 = 1                              ; Read register inputs port_1.
20   symbol outport_0 = 2                             ; Write register outputs port_0.
21   symbol outport_1 = 3                             ; Write register outputs port_0.
22   symbol polaritat_port_0 = 4                      ; Polarity register port_0 inputs -> 0 = no_inverted, 1 = inverted.
23   symbol polaritat_port_1 = 5                      ; Polarity register port_1 inputs -> 0 = no_inverted, 1 = inverted.
24   symbol config_port_0 = 6                         ; Configuration register port_0 as input or output. 1=input 0= utput.
25   symbol config_port_1 = 7                         ; Configuration register port_1 as input or output. 1=input 0= utput.
26   ; SETTINGS
27   config_PCA9555N_A:                               ;DEVICE_A SETUP (A, B, C, D, E, F, G, H. Maximum 8)
28   symbol adress_slave_A =$42                       ; I2C Address PCA9555N %0100ABC(rw). SLAVE PCA9555N (0X4E-0X4F).
29   symbol polport0_A = %00000000                    ; polarity port_0 inputs: 0-no inverted 1-logical inverted.
30   symbol polport1_A = %00000000                    ; polarity port_1 inputs: 0-no inverted 1-logical inverted.
31   symbol confport0_A = %00000000      ; OUT        ; configuration port_0 1=input 0=output.
32   symbol confport1_A = %00000000      ; OUT        ; configuration port_0 1=input 0=output.
33   transfer_config_PCA9555N_A:                      ;TRANSFER ALL SETTINGS TO DEVICE_A.
34   i2cslave adress_slave_A, i2cslow, i2cbyte        ; send/call to address the peripheral/slave.
35   writei2c polaritat_port_0,(polport0_A,polport1_A); polarity send entries and port_1 port_0
36   writei2c config_port_0,(confport0_A,confport1_A); send configuration and puerto_1 puerto_0.
37   ;READ SETTINGS(NEGLIGIBLE)
38   lectura_inicial_debug_A:                         ;READING THE INTERNAL REGISTERS DEVICE_A
39   i2cslave adress_slave_A, i2cslow, i2cbyte        ; I2C Address PCA9555N %0100ABC(rw). SLAVE PCA9555N (0X4E-0X4F).
40   readi2c inport_0,(b0,b1)                          ; Read input ports.
41   readi2c outport_0,(b2,b3)                         ; Read output ports.
42   readi2c polaritat_port_0,(b4,b5)                  ; Read polarity registers of the inputs.
43   readi2c config_port_0,(b6,b7)                     ; Read configuration registers of the ports.
44   ;DEFINITIONS AND INITIALIZATIONS VARIABLES.
45   symbol counter_LSB=b16                            ; The RAM register b16 is called "counter_LSB"
46   symbol counter_MSB=b17                            ; The RAM register b17 is called "counter_MSB"
47   let counter_LSB=0                                 ; Register "counter_LSB" is initially to $00.
48   let counter_MSB=0                                 ; Register "counter_MSB" is initially to $00.
49   ;CYCLIC PROGRAM
50   main:                                            ; ;CYCLIC PROGRAM
51   i2cslave adress_slave_A, i2cslow, i2cbyte        ; I2C Address PCA9555N %0100ABC(rw). SLAVE PCA9555N (0X4E-0X4F).
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52  writei2c outport_0,(counter_MSB,counter_LSB)      ; Write: counter_MSB -> port_0 and counter_LSB -> port_1
53  pause 100                                          ; Wait 0'1 second.
54  debug                                              ; Take a pop all registros.Añande delay.
55  if counter_LSB=255 then inc counter_MSB            ; (SI) Increase the upper MSB.
56                          let counter_LSB=0          ; (SI) Set to 0 the lower LSB.
57                     else inc counter_LSB            ; (NO) Increase the lower MSB.              ;
58  endif                                              ;
59  goto main                                          ; Start over.
```