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; Filename : DemoCode.asm

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; Hardware : ADuC8xx

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; Description : Blinks LED continuously.

; Pressing Int0 slows LED toggle rate each time

; it is pressed.

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$MOD52 ; Use 8052 predefined Symbols

;Definitions

LED1 EQU P3.3 ; P3.3 is LED on ADuC814 eval boards

LED2 EQU P3.4 ; P3.4 is LED on all other ADuC8xx eval boards

FLAG BIT 00H ; define Flag variable

CSEG ; Defines the following as a segment of code

ORG 0000H ; Load Code at '00H'

JMP MAIN ; Jump to MAIN

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;INT0 ISR (Interrupt Service Routine)

ORG 0003h ;

INC A ; Increment Acc

RETI ; Return from Interrupt

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ORG 060h ; Start MAIN outside ISR space

MAIN: ; (main program)

SETB IT0 ; INT0 edge triggered

SETB EA ; enable interrupts

SETB EX0 ; enable INT0

CLR FLAG ; Clear Bit defined as FLAG

MOV A,#01H ; Initialize A to 1

BLINK: CPL LED1 ; blink LED1 using compliment instruction

CPL LED2 ; blink LED2

CALL DELAY ; Jump to subroutine DELAY

JNB FLAG,BLINK ; If FLAG is still cleared the jump to Blink

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DELAY:

MOV R0,A ; Acc holds delay variable

DLY0: MOV R1,#019h ; Set up delay loop0

DLY1: MOV R2,#0FEh ; Set up delay loop1

DJNZ R2,$ ; Dec R2 & Jump here until R2 is 0

DJNZ R1,DLY1 ; Dec R1 & Jump DLY1 until R1 is 0

DJNZ R0,DLY0 ; Dec R0 & Jump DLY0 until R0 is 0

RET ; Return from subroutine

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END