EE 354 Assignment 1

Austin Brummett

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; AT89C51Assn1.A51

; This program should turn on the LED at P1.0 & P1.1 when P3.6 or P3.7

; are closed, respectively, and when both are closed both lights blink at

; a blink rate @ 10 blinks/second

; P3.7 switch P3.6 switch P1.0 LED P1.1 LED

; open 1 open 1 off off

; open 1 closed0 off on

; closed0 open1 on off

; closed0 closed0 blinks blink

MainSeg SEGMENT CODE

;

CSEG at 0h ; Start code segment at 0

ljmp Start ; Jump to Start

RSEG MainSeg

Start:

loop:

JNB P3.6, Switch\_36 ; Jump to Switch\_3.6 when it P3.6 is 0

JNB P3.7, Switch\_37 ; Jump to Switch\_3.7 when it P3.7 is 0

jmp loop

Switch\_36:

JNB P3.7, BothSwitches ; Jump to BothSwitches when it is 0

mov P1, #1; Set P1 to 00000001 to turn on P1.1

mov P1, #3 ; Set P1 to 00000011 to turn on P1.1

jmp loop ; Jump back to the start of the loop

Switch\_37:

JNB P3.6, BothSwitches ; Jump to BothSwitches when it is 0

mov P1, #2 ; Set P1 to 00000010 to turn on P1.0

mov P1, #3 ; Set P1 to 00000011 to turn off P1.0

jmp loop ; Jump back to the start of the loop

BothSwitches:

ACALL WAIT ; Delay off

mov P1, #4 ; Turn both switches on

ACALL WAIT ; Delay on

mov P1, #3 ; Turn off switches

jmp loop ; jump tp start of loop

WAIT:

mov R4,#05H ; Set R4 to 0001

WAIT1:

mov R3,#00H ; Set R3 to 0000

WAIT2:

mov R2,#00H ; Set R2 to 0000

WAIT3:

djnz R2,WAIT3 ; R2 <- R2-1, not 0 jump to Wait 3

djnz R3,WAIT2 ; R3 <- R3-1, not 0 jump to Wait 2

djnz R4,WAIT1 ; R4 <- R3-1, not 0 jump to Wait 1

ret ; Return from Wait 3

End