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'-----Title-----
' File.....switch1.pbp
' Started....6/1/05
' Microcontroller used:  Microchip Technology 16F88
'                          microchip.com
' PicBasic Pro Code:  micro-Engineering Labs, Inc.
'                          melabs.com

'-----Program Description-----
'  Turn on/off LED's with button switch.

'-----Related Lesson-----
'  switch1.pbp is used in the lesson PIC PROGRAMMING 3 SERVOS at:
'  http://cornerstonerobotics.
org/curriculum/lessons_year2/erii13_pic_programming3_servos.pdf

'  switch1.pbp is also used in the
'  lesson ACTIVE HIGH ACTIVE LOW at:
'  http://www.cornerstonerobotics.
org/curriculum/lessons_year2/erii19_active_high_active_low.pdf

'----New PicBasic Pro Commands-----
'  The PicBasic Pro Compiler Manual is on line at:
'  http://www.microengineeringlabs.com/resources/index.htm#Manuals

'  IF...THEN
'  IF comparison THEN label
'  When the comparison in an IF..THEN command is true,
'  the program will jump to the label after THEN.
'  When the comparison is false, the program will
'  continue to the statement after the IF..THEN command.
'  Look around page 91 in the PicBasic Pro Compiler Manual

'-----Revision History-----
'  3/1/06:      Clean-up comments & change labels
'  11/17/07:   Change PIC MCU from 16F84A to 16F88
'  11/17/07:   Add 16F88 oscillator initialization

'-----Variables-----

switch1  VAR PORTB.0      'Labels PORTB.0 as switch1

'-----Initialization-----

TRISB = %00000001      ' Sets up pin B0 of PORTB as an input
                       ' and pins B1-B7 as outputs

PORTB = %00000010     ' Sets pin RB1 to HIGH (+5 volts),
                       ' all other PORTB pins to LOW (0 volts)
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OSCCON = $60          ' Sets the internal oscillator in the
                      ' 16F88 to 4 MHz
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'-----Main Code-----'
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loop:
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  IF switch1 = 1 THEN led2  ' If the switch on PORTB.0 is pushed,
                             ' PORTB.0 becomes HIGH (+5 volts) and
                             ' the comparison is true, so the program
                             ' jumps to the label led2.
```

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  HIGH 1                    ' When the comparison is false, the program
                             ' proceeds to the statement after the
                             ' IF..THEN command, in our case, HIGH 1.
                             ' This makes pin RB1 output HIGH(+5 volts)
```

```
  LOW 2                     ' Makes pin RB2 output LOW(0 volts)
```

```
  PAUSE 1                   ' Pause 1 ms
```

```
  GOTO loop                 ' Jump to loop label
```

```
led2:
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```
  LOW 1                     ' Makes pin RB1 output LOW(0 volts)
```

```
  HIGH 2                    ' Makes pin RB2 output HIGH(+5 volts)
```

```
  PAUSE 1                   ' Pause 1 ms
```

```
  GOTO loop                 ' Jump to loop label
```

```
END
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