

```
'-----Title-----
' File.....active_low.pbp
' Started....7/12/09
' Microcontroller used:  Microchip Technology 16F88
'                          microchip.com
' PicBasic Pro Code:  micro-Engineering Labs, Inc.
'                          melabs.com

'-----Program Description-----

' PIC turns on an LED when a switch is pressed.
' The switch is wired as an active low.

'-----Related Lesson-----

' active_low.pbp is used in the lesson Source and Sink Outputs /
' Active High and Low Inputs at:
' http://www.cornerstonerobotics.
org/curriculum/lessons_year2/eri119_active_high_active_low.pdf

'-----PIC Connections-----

'      16F88 Pin           Wiring
'      -----           -----
'      RB0                150 Ohm resistor to LED to GND
'      RB1                Active low switch
'      RB4                4.7K Resistor to +5 V
'      RB5                Ground
'      RB14              +5 V

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

switch1  VAR PORTB.1  ' Labels PORTB.1 as switch1

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

TRISB = %11111110    ' Sets up RB0 pin of PORTB as an output
                    ' and pins RB7-RB1 of PORTB as inputs

OSCCON = $60         ' Sets the internal oscillator in the
                    ' 16F88 to 4 MHz

'-----Main Code-----

start:

    IF switch1 = 0 THEN led_on  ' If the switch on PORTB.1 is pushed,
                                ' PORTB.1 becomes LOW (0 volts) and
                                ' the comparison is true, so the program
                                ' jumps to the label led_on.

    LOW 0                ' When the comparison is false, the program
                                ' proceeds to the statement after the
                                ' IF..THEN command, in our case, LOW 0.
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                                ' This makes pin RB0 output LOW(0 volts)
PAUSE 1                          ' Pause 1 ms
GOTO start                       ' Jump to loop label
led_on:
HIGH 0                            ' Makes pin RB0 output HIGH(+5 volts)
PAUSE 1                          ' Pause 1 ms
GOTO start                       ' Jump to loop label
END
```