

'-----Title-----

' File.....count1.pbp
' Started....5/9/08
' Microcontroller used: Microchip Technology PIC16F88
' microchip.com
' PicBasic Pro Code: micro-Engineering Labs, Inc.
' melabs.com

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

' Program illuminates 8 LEDs to count in binary from
' 1 to 255.

'-----Comments-----

' Schematic uses 470 ohm current limiting resistors
' connected to each LED. The current through each LED
' is about 6 mA. When all 8 LEDs are on, the total
' current sourced by PORTB is about 50mA, within the
' 100 mA maximum current limit that a PORT can source.

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

16F88 Pin	Wiring
RB0	LED1
RB1	LED2
RB2	LED3
RB3	LED4
RB4	LED5
RB5	LED6
RB6	LED7
RB7	LED8

' See schematic for the other usual PIC connections

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

c0 **VAR** **BYTE** ' BYTE to store counter variable, c0

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

TRISB = %00000000 ' Set PORTB pins as outputs
PORTB = %00000000 ' Set PORTB pins LOW(0 volts)
ANSEL = 0 ' Configure all pins to digital
 ' operation since not using ADC
 ' (Analog to Digital Converter)
OSCCON = \$60 ' Sets the internal oscillator in the
 ' 16F88 to 4 MHz

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

start:

```
FOR c0 = 1 TO 255           ' Count from 1 to 255
PORTB = c0                 ' Illuminate LEDs to display binary
                           ' number. For example, when c0 = 4
                           ' the binary number for 4 is %00000100.
                           ' This command sets PORTB to %00000100,
                           ' bringing RB2 HIGH which turns on the
                           ' LED connected to RB2. All of the
                           ' pins are set LOW leaving their
                           ' respective LEDs off.

PAUSE 200                  ' Pause 200 ms

NEXT c0

PAUSE 3000                 ' Pauses 3 seconds displaying the binary
                           ' number %11111111, then starts over

GOTO start
END
```