

```
'-----Title-----
' File.....16F877A_count1.pbp
' Started....5/9/08
' Microcontroller used:  Microchip Technology PIC16F877A
'                          microchip.com
' PicBasic Pro Code:  micro-Engineering Labs, Inc.
'                          melabs.com

'-----Program Description-----
' Program illuminates 8 LEDs to count in binary from
' %00000000 (0 in decimal) to %11111111 (255 in decimal).

'-----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
' See schematic at:
' http://www.cornerstonerobotics.org/schematics/pic16f877a\_count1.pdf

'-----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)
'
'      ADCON1 = %00000110     ' Changes PORTE and PORTA analog bits to
'                               ' digital operation since not using ADC
'                               ' (Analog to Digital Converter)

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

loop:
```

```
FOR c0 = 0 TO 255           ' Count from 0 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                     ' Goes to next c0

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

GOTO loop

END
```