

```
'-----Title-----
' File.....pbp_vb_led1.pbp
' Started....1/20/09
' Microcontroller used:  Microchip Technology PIC16F88
'                          microchip.com
' PicBasic Pro Code: micro-Engineering Labs, Inc.
'                          melabs.com

'-----Program Description-----
' Visual Basic.NET program controls PIC16F88 to turn on
' and off an LED.

'-----Related Lesson-----
' pbp_vb_led1.pbp is used in the lesson Visual Basic 1 at:
' http://cornerstonerobotics.org/curriculum/lessons_year2/erii_visual_basic1.pdf

'--Visual Basic 2008 Express Edition--
' To download VB 2008 Express Edition, see:
' http://www.microsoft.com/express/download/

'-----Visual Basic Code-----
' For the VB.NET code that interfaces with this PBP program,
' see: http://www.cornerstonerobotics.org/code/vb_led1.pdf

'-----New PicBasic Pro Command-----
' BRANCH Index,[Label{,Label...}]
'
' The PicBasic Pro Compiler Manual is on line at:
' http://www.melabs.com/support/index.htm then under the
' Compiler Documentation: click on PICBASIC PRO Compiler
' Manual and then look at about page 47 in the manual.

'-----Connections-----

'      16F88 Pin   Function           Name Given           Wiring
'
'      -----   -----           -----           -----
'
'      RB0                LED1                LED1
'      RB2      Receiver Pin   PICS1              MAX232 Pin 9
'      RB5      Transmit Pin   PICS0              MAX232 Pin 10
'
' See the schematic for the PIC power and MCLR connections

' MAX232 Pin  Datasheet           Function and Wiring
'              Designation
```

```

' -----
'
' Pin 7      T2OUT      Receive Data to Male RS232 DB9 Pin 2
' Pin 8      R2IN       Transmit Data from Male RS232 DB9 Pin 3
' Pin 9      R2OUT      Receive Data to PIC RB2
' Pin 10     T2IN       Transmit Data from PIC RB5
'
' See schematic at:
http://www.cornerstonerobotics.org/schematics/pic\_vb\_serin2\_LED.pdf
'-----Variables-----

MODE          VAR  WORD      ' WORD for MODE value
PinState      VAR  BYTE      ' BYTE to hold incoming value of PinState
LED1          VAR  PORTB.0  ' Defines PORTB.0 name as LED1
PICS1         VAR  PORTB.2  ' Defines PORTB.2 name as PICS1
PICS0         VAR  PORTB.5  ' Defines PORTB.5 name as PICS0

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

DEFINE OSC 8          ' Defines oscillator setting at 8 MHz.
                    ' For SERIN2, an oscillator speed faster
                    ' than 4MHZ may be required for reliable
                    ' operation at 9600 baud and above.

ANSEL = 0           ' Changes analog bits to digital.

OSCCON = $70        ' Sets the internal oscillator in the
                    ' 16F88 OSCCON register to 8 MHz

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

MODE = 84           ' Sets RX/TX speed to 84 (9600 baud)
                    ' MODE = 188 (4800 baud)
                    ' MODE = 396 (2400 baud)
                    ' See appendix in PicBasic Pro manual
                    ' for other MODE examples.

Main:

SERIN2 PICS1, MODE, [PinState]
                    ' PIC receives PinState input from VB
                    ' through the serial port.
                    ' Format: SERIN2 Pin, Mode, [Item1]
                    ' Pin = PICS1(RB2), declared in variables
                    ' Mode = 84 (9600 baud rate)
                    ' [Item1] = [PinState]

BRANCH PinState,[GoLOW,GoHIGH]
                    ' If PinState = 0 Then go to GoLOW
                    ' If PinState = 1 Then go to GoHIGH

GOTO Main

GoLOW:

```

LOW LED1 *' Set The LED1(RB0) LOW*
GOTO Main

GoHIGH:

HIGH LED1 *' Set The LED1(RB0) HIGH*
GOTO Main

END