```
'---------------Title--------------

' File......16F877A_hpwm2.pbp
' Started....1/17/08
' Microcontroller used:  Microchip Technology 16F877A
'                        microchip.com
' PicBasic Pro Code: micro-Engineering Labs, Inc.
'                    melabs.com

'--------Program Desciption--------

' Uses HPWM command to change the motor speeds.

'-------------Schematic------------

' See schematic at:
' http://www.cornerstonerobotics.org/schematics/pic16f877a_hpwm2.pdf

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

' hpwm1.pbp (the 16F88 program) is used in
' the lesson MOTOR CONTROL WITH PWM at:
' http://www.cornerstonerobotics.
org/curriculum/lessons_year2/erii21_motor_control_pwm.pdf

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

' The HPWM Channel 1 (CCP1) for the PIC16F877A is RC2.
' The HPWM Channel 2 (CCP2) for the PIC16F877A is RC1.

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

    p0  VAR BYTE         ' Byte to store Dutycycle variable

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

    TRISB = %00000000    ' Sets all pins of PORTB as outputs

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

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

loop:

    p0 = 90              ' Sets Dutycycle variable to 90
    GOSUB motorhpwm      ' Jumps to subroutine motorhpwm
    p0 = 255             ' Sets Dutycycle variable to 255
    GOSUB motorhpwm      ' Jumps to subroutine motorhpwm
    p0 = 0               ' Sets Dutycycle variable to 0
    GOSUB motorhpwm      ' Jumps to subroutine motorhpwm
    GOTO loop            ' Jump to loop label and start all over
    END
```

```
motorhpwm:              ' Subroutine motorhpwm

    HPWM 2,p0,245       ' Motor is driver by Channel 1, (RB0) on
                        ' the PIC16F88.  The Dutycycle is set at
                        ' the value of p0.
                        ' The frequency is set for 245 Hz.

    PAUSE 2000          ' Pauses 2000 mS or 2 sec.
    RETURN              ' Returns to next program statement after
                        ' the GOSUB command.
```