Picbasic Program Used to Program PIC18F452 Microcontroller

for Petal Breakstrength Meter

DEFINE OSC 4  ' 4 MHz oscillator
DEFINE ADC_CLOCK 1  ' Set A/D clock Fosc/8
DEFINE ADC_BITS 10  ' Set A/D for 10-bit operation
DEFINE ADC_SAMPLEUS 40  ' Set A/D sampling time @ 40uS
TRISA = %00000001  ' Set PortA.0 for input
ADCON1 = %10001110  ' Configure registers for ADC
ADCON0 = %01000001

sum VAR WORD
samples VAR WORD
voltage VAR WORD
final VAR WORD
dummy VAR WORD
voltout VAR WORD
samples = 0
sum = 0

High PORTB.3  ' Turn on LED power indicator
Pause 500  ' Wait .5 second

LOOP:
  For samples = 1 TO 30  ' Take 30 samples
  ADCIN 0, voltage ' Get ADC and store value in variable voltage
  sum = sum + voltage ' Sum 30 samples
  Next samples
  final = sum/30 'average the 30 samples
  dummy = 48876 * final ' convert adc value (0-1023) to
  voltage in range of (0 - 5000 mV)
  ' pic uses integer math and we must
  voltout = Div32 10000 ' keep within variable size limits
  samples = 0
  sum = 0
'Serial port communication 9600 baud, 8N1
SerOut2 PORTB.1, 84, [DEC voltout, "mV", 10, 13]

GoTo LOOP ' Get another recording