

'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
```