

```
' {$STAMP BS2}
' {$PBASIC 2.5}
```

```
'binary long-division algorithm courtesy of
'http://www.emesystems.com/BS2math2.htm
```

```
'*****
'* Variable/Pin Declarations *
'*****
```

```
DataIn          PIN 5      'square-wave pulse from 555 timer @ 1kHz
StartCount      PIN 10    'signal that fault condition is detected

Pulses          VAR WORD 'pulses counted from a single 100ms incre
PulsesTot       VAR WORD 'total counted pulses

index           VAR BYTE

CountFreq       VAR WORD '555 timer astable freq. of 1000 Hz
delayTime       VAR WORD

numr            VAR WORD 'numerator in binary long-division
deno            VAR WORD 'denominator in binary long-division
intg            VAR WORD 'integer result of binary long-division
frac           VAR WORD 'fractional result of binary long-division
```

```
'*****
'* Variable Initialization *
'*****
```

```
delayTime = 0
CountFreq = 1000 '555 timer astable freq. of 1000 Hz
Pulses = 0 '555 pulse count of each 100mS increment of COUNT comma
PulsesTot = 0 ' running pulse-count total
```

**Main:**

```
DO 'check to see if pulses must be counted
  GOSUB CountCheck
LOOP 'forever!
```

**CountCheck:**

```
IF StartCount = 1 THEN 'if pin is set to HIGH, count pulses
  GOSUB CountTrip
ELSE '...otherwise go back to main and check again
```

