

```
/*
```

```
A demonstration program for GCBASIC.
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```

This lesson shows how to use the ADC, run a conversion, read the analog voltage controlled by the potentiometer (RP1) on the board, and display the high order 8 bits on the LEDs.

The PIC16F887 has an on-board Analog-to-Digital Converter (ADC) with 10 bits of resolution on any of 14 channels.

The converter can be referenced to the device's VDD or an external voltage reference.

The 44-pin Demo Board references it to VDD as provided by the PICKit Microcontroller Programmer.

The result from the ADC is represented by a ratio of the voltage to the reference.

$$\text{ADC} = V/V_{\text{REF}} * 1023$$

Converting the answer from the ADC back to voltage requires solving for

$$V.V = \text{ADC}/1023 * V_{\text{REF}}$$

```
@author      EvanV
```

```
@license     GPL
```

```
@version     1.00
```

```
@date        2024-08-17
```

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*****
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```
*/
```

```
#chip 16F887
```

```
#option explicit
```

/*

```
-----PORTA-----  
Bit#:  -7---6---5---4---3---2---1---0---  
IO:    -----AN0---  
IO:    -----
```

```
-----PORTB-----  
Bit#:  -7---6---5---4---3---2---1---0---  
IO:    -----SW---  
IO:    -----
```

```
-----PORTC-----  
Bit#:  -7---6---5---4---3---2---1---0---  
IO:    -----  
IO:    -----
```

```
-----PORTD-----  
Bit#:  -7---6---5---4---3---2---1---0---  
IO:    -DS8-DS7-DS6-DS5-DS4-DS3-DS2-DS1--  
IO:    -----
```

*/

```
DIR PORTD OUT  
PORTD.7 = 1
```

Do

```
//Wait 100 ms  
Wait 100 ms
```

```
// Read the ADC, shift the result by two bits by a  
division of 4  
PORTD = ReadAD10( AN0 ) / 4
```

Loop

End