Convert BASIC to Assembler…

Introduction

This feature is provided free of charge to users who have purchased a Revolution PIC Programmer. The command requires a PIC Programmer to be attached to the serial port of the computer whenever the command is used.

This command converts the BASIC program into a sequential assembler code listing. This function is primarily designed as an educational tool to help the user learn assembler code by 'disassembly' of simple BASIC programs.

Operation

Unlike most other BASIC compilers (which tend to extensively use 'lookup-tables' and 'macros', making the generated assembler code listing very complicated), this compiler uses a sequential approach leaving the original BASIC program structure, and adding the original BASIC commands as comments within the generated assembler code listing. Therefore it is much simpler for the user to trace how the assembler code program has been generated. Although this creates a slightly longer assembler code program, it is unlikely that any program will exceed the memory capabilities of the microcontroller.

Once the assembler code program has been generated it can be assembled and programmed into the microcomntroller. This can be achieved within the Programming Editor software by selecting View>Options and selecting 'PICmicro – Assembler' mode.

Step by Step:
1) Type in your BASIC program.
2) Connect the programmer and insert blank microcontroller.
3) Convert Basic to Assembler Code (PICMicro-Convert menu)
4) Select the appropriate target microcontroller and click OK.
5) Assemble the code (PICMicro-Assemble menu)
6) Program the microcontroller (PICMicro-Program menu)

This feature is designed as an educational tool rather than a professional development feature. Consequentially, at present, not all BASIC commands are supported. In later releases more commands and features may be added.

Commands Supported

The commands not currently supported are listed below. These commands will generate an error message within the assembler code listing. Most of these commands are not generally used by educational users.

branch, button, debug, lookdown, lookup, pot, pwm

At present only byte variables (pins, dirs, b0 to b13) are supported.