

Debugging a Program

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To enter debug mode click on the "Debug" tab. The ICON program is always running unless stopped in Debug Mode. Notice the status indicator in the upper middle of the screen. This indicates whether the program is running or stopped. When you exit Debug Mode, the program automatically begins running should you forget to restart it. Also, if your computer crashes or loses connection with the ICON, the program will restart in two minutes.

The following functions are available to you by Right Clicking on the program:

Inspect Variable (*Ctrl V*)

Click to select and highlight the instruction whose variable values you want to view. Select Inspect Variables from the right click menu (or *Ctrl V*). A window will appear listing all the variables for that instruction and their values. Click the button under "Expand" to see the entire subset of values for a subscripted variable (up to 128 subscripts). You can change the values for any or all variables. Clicking "Update" will write your new values to the variables without closing the window.

If the program is in "Run" mode the variable values will be continuously and automatically updated. If the program is stopped you may use the "Step" button. Clicking the "Step" button will cause the next instruction to execute and show you the values of the variables used in the instruction just executed.

Step (*Ctrl S*)

This function can be called directly as well as from the Inspect Variable window as described above. Again, Step will only work if the program is stopped. This function, on its own, allows you to move through several instructions quickly. Use Inspect Variables to see the results of instruction execution.

Run (*Ctrl R*)

This function starts the program from its beginning. Certain instructions "initialize" themselves on start-up, meaning that the variables are given an initial value the first time through the program. The Run function causes these instructions to initialize. The Continue function does not. Run does not initialize all variables to 0 as is done after a program load, however.

Stop (*Ctrl P*)

This function stops the program from executing. The last instruction to be executed is brought to the top of the screen. Where you place your cursor before using this function has no effect on where the program stops.

Continue (*Ctrl C*)

This function starts the program where it left off when the Stop function was used. It does not cause instructions to initialize as described under Run.

Set Break (*Ctrl B*)

Highlight the last instruction you want executed. Use the Set Break function. The program will run until the selected instruction is executed. Then the program stops and the selected line moves to the top of the screen. Notice the "Break Point" status in the lower left. This function allows you to run the program live, stop it at a pre-determined point and analyze what happened. Often Inspect Variable is used at this point.

Delete Break (*Ctrl D*)

This function simply removes the Break Point you have set. Select Continue or Run to start program running if stopped.

Loop Position, Module Position and Instruction Position

These functions are the same as in Program Mode and are used to rapidly move to a new position in the program for single step or break point operations.