

**University of Florida
Department of Electrical Engineering
EEL 5934 Intelligent Machines Design Lab**

Interactive Debugging in IC

While writing and debugging programs in IC, you may often wonder “Just what is this @*#! program doing?” One of the nicest features about IC is that it behaves like an interpreted language. While this makes the language relatively slow, it does make it much easier to debug.

One form of debugging might involve using the `serial.c`, but this will require exiting IC, and loading a terminal program. It is also impossible alter any variables while doing this.

There are two things that suggest that there is an easy way. First, any global variables can be displayed in IC while the machine is running. Second, when an array is displayed in such a manner, *every* element of the array is displayed. The procedure would then seem to be simple. Just define a global array, and a global pointer. A routine could then be called that will dump a number into the array, and increment the pointer. A sample program is shown below. All a program has to do is call the function `debug(int)`; where `int` is the variable or value to place in the array.

In order for this trick to work, however, you must have control over the robot while it is running. To do this, have your routine, `main()`, simply initialize variables and call other routines, and then exit. When `main()` exits, you will be able to communicate with IC, while all of your behaviors are running in the background.