The objective of this lab is to learn to debug a program by using the Wytec monitor (a.k.a. Wytec debugger).

Pre-Lab:
Read the EVBplus2 User Manual from page 1 to page 13. A command summary is provided at pp. 13-14.

Lab:
  a. Write a program that fills 16 bytes of memory with increasing values starting at $00 by using a loop that fills one byte each time through. Use memory locations $D010 – $D01F. Use as last instruction of your program BRA *. Make sure that the starting location of your program is in the “RAM for user” memory map (read p. 6 of the EVBplus2 Getting Started Manual)
  b. Assemble the program and invoke the debugger (Wytec tool window)
  c. Download the machine code using the load command.
  d. Single step through the execution of the program’s instructions. Use the next step command. At each step examine the CPU registers values and the next instruction to be executed. Repeat this step until you feel comfortable with the use of the command.
  e. Complete the execution of the program by using the trace command. Make sure to observe the value of the PC.
  f. Verify that the program you wrote worked correctly by dumping the contents of locations $D010 to $D01F. Use the dump command
  g. Fill the locations $D010 to $D01F with the pattern A0 B1 C2 D3 A0 B1 C2 D3, by using the fill command. Since the pattern repeats itself you do not need to type in all 16 values.
  h. Using the dump command verify that the content of locations $D010 to $D01F has been successfully updated.
  i. Reset the board, and load the program again.
  j. Set a breakpoint on the last instruction of your program (BRA *) and run the program using the go command. The address at which the breakpoint must be set is relative (hint: to figure out the breakpoint’s address it helps to observe the PC).