The basic approach to this lab will be to first develop and debug your system using the simulator. You will get a lab grade for this simulation phase of development. After the software is debugged, you will run your software on the real microcontroller. You will get a second lab grade for this real-board phase of development. In this lab you will not need to build any hardware (just use the LaunchPad with the switches and LED already connected).

To run the Lab 7 grader, you must do two things. First, execute Project->Options and select the Debug tab. The debug parameter field must include **-dedXLab7**. Second, the **edXLab7.dll** file must be added to your Keil\ARM\BIN folder. These configurations should have been made during the download and installation steps in Lab 2.

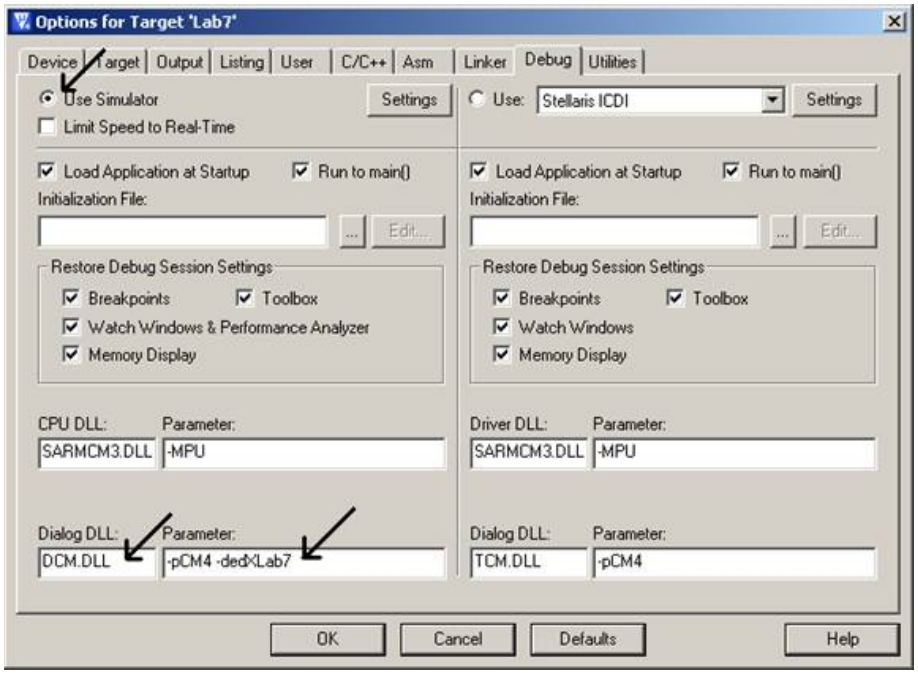


Figure 7.2. Setting up TExaS to debug your software in simulation mode.

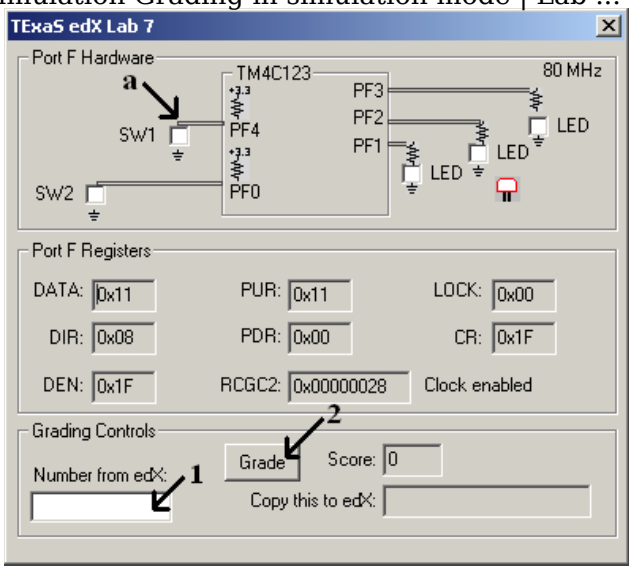


Figure 7.3. Debugging with TExaS in simulation mode. When running push the switch (a) to set and release the switch. When grading first place the number from edX (1), then click grade (2).

Part a) Make the necessary changes to the software given the fact that the yellow LED will be flashed. Test your software in the simulator and fix any software bugs.

Part b) Change the logic in the main loop so that the LED flashes SOS only if both switches are pressed.

Part c) Change the logic in the SOS output software so it delays 4 seconds between outputs, rather than 5 seconds.

Part d) During checkout, I will grade your system in both simulation and on the real board. During the simulation grading I will automatically set the input and check your output. The same code runs at a speed just a little bit slower on the real board as compared to running on the simulator. For this reason the graders will allow for some tolerance when measuring times of your lab solution. For example, a 4-second delay running on the real board may look like a 3.75 second delay running in simulation.

GRADING IN SIMULATION MODE

Help

PROFESSOR JONATHAN VALVANO: Let me show you how to get a grade in Lab 7 running in simulation.

We need two windows open.

We need the edX window open as shown

here for Simulation Grader, and we

need Keil open.

This is my solution.

You have to do your own.

But we make sure we're in simulation.

So I go over to debug.

I see I'm in simulation mode.

That's good.

I'm going to build, which is to compile.

And I'm going to debug.

And after you've debugged your program and you're ready to grade, we're going

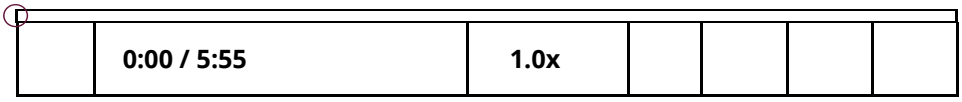
to take the number from edX.

This tells the grader who you are.

Copy.

Your number will be different.

And you're going to paste it right in here.



Help

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