Help

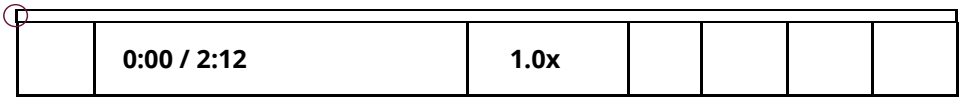
The basic approach to all labs will be to first develop and debug your system using the simulator. You will get a lab grade for this simulation phase of development. After the software is debugged, you will interface actual components to the LaunchPad and run your software on the real microcontroller. You will get a second lab grade for this real-board phase of development. You will find the example files and starter codes for lab in the **\Keil\TExaSware** directory. In particular the Lab 5 starter code is in the directory **Keil\TExaSware\Lab5_FunctionsInC**

Part a) The first step is to write the function **Calc_Area**. Next you can test your function in simulation mode. This main program inputs using **scanf**, calls your function and outputs the results to the UART window using **printf**.

```
int main (void) {
 unsigned long length, width, area;
 UART_Init();    // initialize UART for printing
 printf("\nThis program calculates areas of rectangular rooms\n");
 while(1) {
  printf("\nGive length: "); scanf("%ld", &length);  // Get input
  printf("\nGive width: ");  scanf("%ld", &width);   // Get input
  area = Calc_Area(length, width);
  printf("\nArea of the room is %ld\n",  area);
 }
}
```

Part b) The second step is to run the grader in simulation mode. The automatic grader will interact with your function using the above main program (so while grading do not change this main program).

GRADE IN SIMULATION



in lab five simulation, we're going to

need two windows open so the first is a browser pointed here to the edX lab

five simulation grader.

In the second, we're going to need Keil.

Here I have my solution to Keil.

And you're going to have to do yours.

We'll make sure we're in Simulation mode.

That's options, debug.

And we see the simulator is selected.

Next we're going to compile it, which is to build.

And then we're going to debug it.

And so while you're running the debug mode in lab five,

you'll see three windows.

The first is this grading window, or I/O window, which you could see by

Help

If you do not see the UART window, execute **View->SerialWindows->UART1.** If you do not see the window with the Port F input/output, execute **Peripherals->TExaSPortF.** Another trick to reset all the windows in their default position is to execute **Window->SetViewToDefault**.