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Lab 7 Deliverables

Demonstration Questions

You will be required to demonstrate the proper operation on the actual microcontroller. During demonstration to the TA, you will run your system in the debugger and show the binding, allocation/initialization, access and deallocation of the local variables. Each time a function is called, an **activation record** is created on the stack, which includes parameters passed on the stack (none in this lab), registered saved, and the local variables. You will be asked to observe the stack in the debugger and identify the activation records created during the execution of **LCD_OutDec**. TAs may ask you questions on OLED interfacing, and programming. What does the SDA and SCL signals signify? What does busy-wait synchronization mean in the context of communication with the LCD? The TA will ask to see your implementation of local variables and ask you to explain the four step process (binding, allocation, access and deallocation). What are the advantages/disadvantages of using SP or R11 for the stack frame? You should be able to draw stack pictures. How does AAPCS apply to this lab? Why is AAPCS important? Why do students who use R4 without saving and restoring R4 find the SSD1306 software crashes?

SDA - Serial Data
SCL - Serial Clock

If SP is used as reference point, if SP changes, Reference pt no longer valid. Copy SP and put it in R11 & now have a constant reference point - allows us to use R11 as reference pointer & continue to push onto the stack with a frame pointer

Disadvantage → everything gets messed up