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EET 240

1. Calculate the displacement for Example 3-1. Show all of your work including converting into the 2’s complement value.

0111

+1001

10100

1. What commands are used to setup the stack frame?
   1. Ldi r16, high(ramend)
   2. Out sph, r16
   3. Ldi r16, low(ramend)
   4. Out spl, r16
2. When pushing items onto the stack does the pointer register increment or decrement? When popping items off the stack?
   1. When pushing items, the pointer decrements and increments when popping off.
3. In your own words describe what a branch penalty is and why it is important to consider it?
   1. A branch penalty is basically the fact that a branch statement requires more machine cycles to execute and therefore can create overhead and timing issues.
4. Upon reset the SP points to locations\_\_\_\_\_
   1. 0x08FD
5. What questions do you still have about simulating code with Microchip Studio?
   1. What are some common causes for common errors when trying to build? In c++ I could generally have a starting point of what to look for with errors when trying to build but I have no clue with this system.
6. Other questions in the lab?
   1. Since we can obviously set the stack up to a different value than ramend because we did it in the last example in the lab what are the advantages of doing so? Would it be a case of we know exactly how much we need for our specific task and would reduce overhead or is there some other reason?