ECE 375 Lab 3

Introduction to AVR Simulation with Atmel Studio

Lab Time: Thursday 10:00 - 11:50

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TA Signature

1 Additional Questions

1. **What is the initial value of DDRB?**

   DDRB is at 0x37 and has an initial value of 0x00

2. **What is the initial value of PORTB?**

   PORTB is at 0x38 and has an initial value of 0x00

3. **Based on the initial values of DDRB and PORTB, what is Port Bs default I/O configuration?**

   Port B's default I/0 configuration is all 0's, or, set to output

4. **What 16-bit address was the stack pointer just initialized to?**

   The stack pointer was initialized to 0x10FF

5. **What are the current contents of register r0?**

   r0 is initialized to 0xFF

6. **How many times did the code inside the loop structure end up running?**

   The loop was ran five times

7. **Which instruction would you modify if you wanted to change the number of times that the loop runs?**

   To change the number of times the loop is ran I would change the ldi i, $04 instruction. Specifically the counter, $04

8. **What are the current contents of register r1?**

   After the loop, the contents of r1 is 0xAA

9. **What are the current contents of register r2?**

   After loop2, the contents of r2 is 0x0F

10. **What are the current contents of register r3?**

    The current contents of r3 is 0x0F

11. **What is the value of the stack pointer now that your program flow has moved inside of a subroutine?**

    The stack pointer's value is 0x10FD

12. **What is the final result of FUNCTION? (What are the hexadecimal contents of memory locations $0105:$0104?)**

    0x0105 contains 0e and 0x0104 contains aa