Assignment 1b

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**PART 1: Touring the LC-3 Simulator**

1. What is the LC-3’s Program Counter set to by default?
   1. x3000
2. What is the value at the memory location 0x0023 in binary?
   1. 0000 0100 1010 0000
3. What is the value at memory location 0xFFFE in hexadecimal?
   1. x7FFF
4. What are the binary opcode and the name of the instruction at memory location 0x04E6?
   1. LDR (0110) R0, R1, #0

**PART 2: Running LC-3 Instructions**

1. Set the value of R0 to decimal #100 and the value of R1 to hexadecimal 0x23
   1. What is the value of R0 in hexadecimal?
      1. x0023
   2. What is the value of R1 in decimal?
      1. 35
2. Having set the values of R0 and R1 to #100 and 0x23, respectively, and having run an ADD R2, R0, R1, what is the value of R2 in hexadecimal?

a. x0087

**PART 3: “Add,” “And,” and “Not”**

1. For each of the following problems, provide a solution in hexadecimal
   1. Using just one instruction, copy the value of R0 into R1
      1. x1220
   2. Using just one instruction, clear R0 (set all of its bits to zero).
      1. x5020
   3. Using just one instruction, clear bit 2 of R0, but leave the rest of the bits unchanged. For example, if R0 contains 1111 1111 1111 1111 (0xFFFF), then your instruction should change its contents to 1111 1111 1111 1011 (0xFFFB).
      1. x103C