



Challenge 5: Assembly and Disassembly

Answer the following questions with regard to assembling and disassembling LC-3 Instructions.

Version 1

1. Assemble the following instructions, give your answer as a hexadecimal number
 - a. ADD R1, R2, R3
 - b. LD R3, label (this instruction is at address x3002 and label is at address x3005)
 - c. STR R5, R2, #-4
 - d. TRAP x20
2. Disassemble the following instructions to LC-3 assembly
 - a. x54A0
 - b. x7101
 - c. xC1C0
 - d. x40C0



Challenge 5: Assembly and Disassembly

Answer the following questions with regard to assembling and disassembling LC-3 Instructions.

Version 2

1. Assemble the following instructions, give your answer as a hexadecimal number
 - a. ADD R5, R6, #-5
 - b. LDR R0, R1, #3
 - c. JMP R7
 - d. LD R4, label (this instruction is at address x3005 and label is at address x300A)
2. Disassemble the following instructions to LC-3 assembly
 - a. x1300
 - b. x6040
 - c. x7545
 - d. x4180



Challenge 5: Assembly and Disassembly

Answer the following questions with regard to assembling and disassembling LC-3 Instructions.

Version 3

1. Assemble the following instructions, give your answer as a hexadecimal number
 - a. ADD R6, R6, #1
 - b. JSRR R5
 - c. LD R1, label (this instruction is at address x3003 and label is at address x3004)
 - d. AND R2, R2, #0
2. Disassemble the following instructions to LC-3 assembly
 - a. x9FBF
 - b. x1882
 - c. xF025
 - d. x5081



Challenge 5:

Assembling

1. V1
 - a. x1283
 - b. x2602
 - c. x7ABC
 - d. xF020
2. V2
 - a. x1BBB
 - b. x6043
 - c. xC1C0
 - d. X2804
3. V3
 - a. x1DA1
 - b. x4140
 - c. x2200
 - d. x54A0

Disassembling

4. V1
 - a. AND R2, R2, #0
 - b. STR R0, R4, #1
 - c. JMP R7 / ret
 - d. JSRR R3
5. V2
 - a. ADD R1, R4, R0
 - b. LDR R0, R1, #0
 - c. STR R2, R5, #5
 - d. JSRR R6
6. V3
 - a. NOT R7, R6
 - b. ADD R4, R2, R2
 - c. HALT / TRAP x25
 - d. AND R0, R2, R1