Peer Instruction #7: LC-3 Assembly Language (continued)

Translate the LC-3 instruction 0xC1C0 into LC-3 assembly code:

A. JMP R7
B. RET
C. Both of the above
D. None of the above

LC-3 Instructions

Translate ADD R0,R1,#-16 from assembly code into an LC-3 instruction in hexadecimal:

A. 0x1040
B. 0x106F
C. 0x1070
D. 0x107F
E. Cannot be done!

LC-3 Instructions

Which instruction branches to Main if R0 is less than or equal to 12?

```
Twelve   .FILL x000C
Main     LD R1,Twelve
         NOT R1,R1
         ADD R1,R1,1
         ADD R0,R0,R1
         ??? Main
```

A. BRn
B. BRz
C. BRp
D. BRnz
E. BRzp

Condition Codes

What are the values in R0,R1,R2 after the code below executes? Assume the Main label is at address x3000.

```
Main    LD R0,Data
        LEA R1,Data
        LDR R2,R1,0
        HALT
Data    .FILL 0x4321
```

A. x4321, x3003, x7324
B. x4321, x3004, x7324
C. x4321, x3003, x4321
D. x4321, x3004, x4321
E. None of the above

LEA and LDR

What is the value in R0 and R1 after the code executes from Main label?

```
Array   .FILL x1133
        .FILL x2244
        .FILL x3355
Main    NOT R1,R1
        LEA R2,Array
        LDR R0,R2,2
        LDR R0,R2,3
        HALT
```

A. x1133, x2244
B. x2244, x3355
C. x3355, x903F
D. x3355, x927F
E. None of the above

LEA and LDR

What is the PC offset field in the ST instruction shown below?

```
Data0   .FILL x1234
Data1   .FILL x2345
Data2   .BLKW 1
Main    LD R1,Data0
        LD R2, Data1
        ADD R3,R2,R1
        ST R3,Data2
```

A. 0b111111011
B. 0b111111100
C. 0b111111101
D. 0b100000100
E. 0b100000101

PC Offsets