PC RELATIVE ADDRESSING MODE

2:14 / 2:14 1.0x

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1. CHECK YOUR UNDERSTANDING (1/1 point)

What operation is performed by the LC-3 instruction 0010011100000000?

- (•) The contents of memory 256 locations before the address pointed to by the PC are loaded into register 3. ✔
- ( ) The contents of memory 255 locations after the address pointed to by the PC are loaded into register 7.
- ( ) The contents of memory location 0 are loaded into register 3.
- ( ) The contents of memory location 0 are loaded into register 7.

EXPLANATION

The opcode 0010 indicates that this is a LD instruction. The destination register is 3. The offset 10000000, which is -256 in decimal, is

added to the address pointed to by the PC to form the address. (Since the PC was incremented during instruction fetch, the address will actually be 255 locations before the address of the LD instruction.)

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