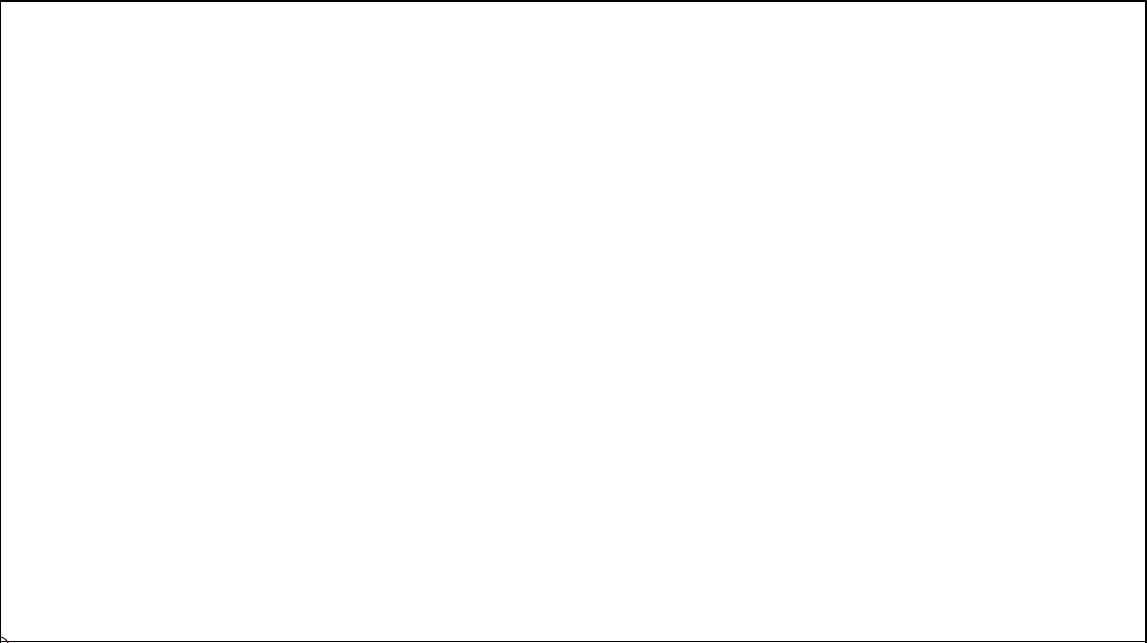


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INSTRUCTION



| | | | | | |
|--|-------------|------|--|--|--|
| | 0:00 / 1:02 | 1.0x | | | |
|--|-------------|------|--|--|--|

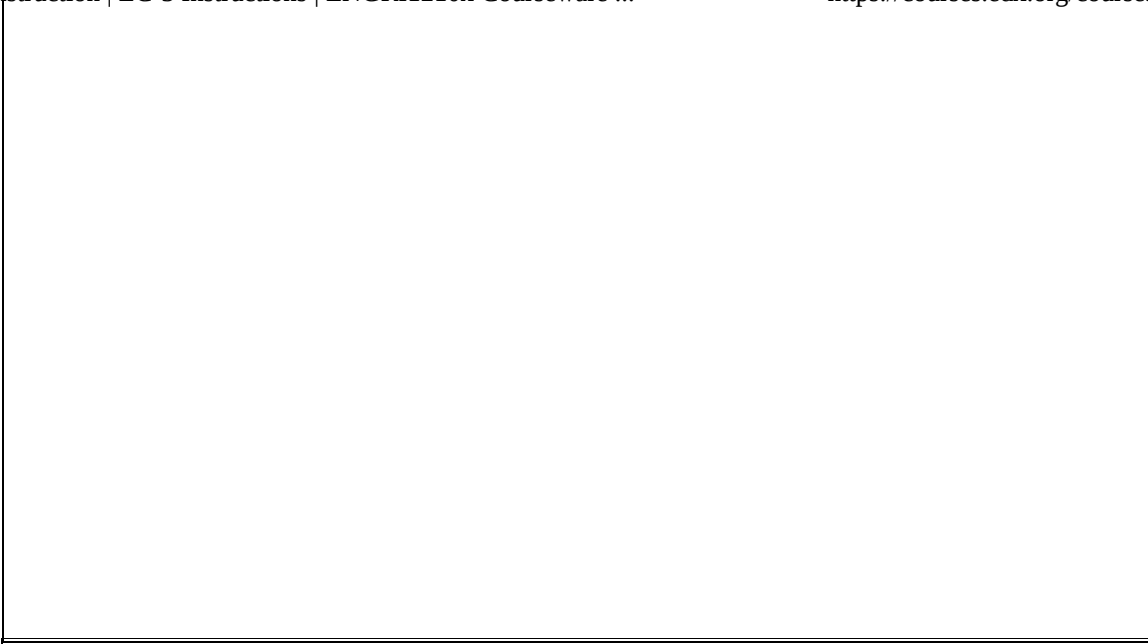
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Please refer to Appendix A, Figure A.2 of [Introduction to Computer Systems](#) for a list of LC-3 instructions. If the link doesn't work please copy and paste the following URL http://highered.mheducation.com/sites/0072467509/student_view0/appendices_a_b_c_d_e.html

LC-3 INSTRUCTIONS



| | | | | | |
|--|-------------|------|--|--|--|
| | 3:51 / 3:51 | 1.0x | | | |
|--|-------------|------|--|--|--|

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1. CHECK YOUR UNDERSTANDING (1/1 point)

An LC-3 ADD instruction has an Opcode of 0001 and the following format:

| | | | | | | | | | | | | | | | |
|-----|----|----|----|-----|----|---|------|---|---|---|---|------|---|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| ADD | | | | Dst | | | Src1 | | 0 | 0 | 0 | Src2 | | | |

Which of the following best describes the operation performed by the instruction 0001000000000000?

- ☐ R1 = R2 + R3
- ☐ R1 = R0 + R0
- ☒ R0 = 2 × R0 
- ☐ R4 = R3 + R2

EXPLANATION

2 of 4 Both source registers, and the destination register, are R0. Therefore, the operation performed is $R0 = R0 + R0$, which is equivalent to

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Final Check

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Hide Answer

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2. CHECK YOUR UNDERSTANDING (1/1 point)

An LC-3 LDR instruction has an Opcode of 0110 and the following format:

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-----|----|----|----|-----|----|---|------|---|---|--------|---|---|---|---|---|
| LDR | | | | Dst | | | Base | | | Offset | | | | | |

Which of the following best describes the operation performed by the instruction 0110001010000000?

- ☒ Load the contents of the memory location whose address is in R2 into register R1. ✓
- ☐ Add the value of 0 to the contents of R1 to form a memory address. Load the contents of that memory location into R2.
- ☐ Load the value of R1 into R2.
- ☐ Load the value of R2 into R1.

EXPLANATION

The base address is located in R2 and the offset is 0. This means that the address of the location to be read is located in R2. The contents of that memory location are placed into the destination register, which is R1.

Final Check

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