

For this quiz, consider the following LC3 assembly code:

1	.ORIG	x3050	
2	LD	R1, SIX	
3	LD	R2, NUMBER ;	
4	AND	R3, R3, #0	
5	AGAIN	ADD R3, R3, R2	
6	ADD	R1, R1, #-1	
7	BRp	AGAIN	
8	HALT		
9	NUMBER	.BLKW 1	
10	SIX	.FILL x0006 ;	
11	.END		

- How many 16-bit words will the corresponding object file contain?
a) 16 b) 11 c) 20 d) 12 e) 10
- What is the memory address of line 3?
a) x3053 b) x3052 c) x3054 d) x3051 e) x3050
- 送分 ③ If LD has the format

0010	Dst	PCOffset9
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, what machine code does line 3 get translated into?
a) x2206 b) x3053 c) x3050 d) x2209 e) x2205
- How many bytes does the `AGAIN` label on line 5 occupy in the LC3 object file?
a) 2 b) 0 c) 1 d) 4 e) 3
- How many bytes does line 9 occupy in the LC3 object file?
 a) 2 b) 3 c) 1 d) 0 e) 4
- What machine code does line 10 get translated into?
a) x305A b) x3056 c) x0600 d) x0006 e) x1006
- How many bytes does line 11 occupy in the LC3 object file?
a) 4 b) 0 c) 3 d) 1 e) 2
- Lines 1, 10, and 11 are called
a) immediates b) directives c) operands d) instructions e) opcodes
- A program that translates a machine-language program to an assembly-language one is called
a) a linker b) an assembler c) a disassembler d) a compiler e) a loader
- Which of the following C code most closely resembles the functionality of lines 5-8?
a) `while (AGAIN) { R3 += R2; R1--; }`
b) `do { R3 += R2; R1--; } while (AGAIN);`
c) `while (R1-- > 0) { R3 += R2; }`
 d) `do { R3 += R2; } while (--R1 > 0);`
e) `for (R3 = 0; R1 > 0; R1--) { R3 += R2; }`