

1. What does this instruction do?
 0000 000 000000011

2. What does this instruction do?
 0000 111 000000011

3. How do you clear the content of a register using LC-3 instruction(s)?

4. How do you multiply a register content by 8 using LC-3 instruction(s)?

5. What does this LC-3 program do?

3000	AND R5, R5, #0	
3001	AND R3, R3, #0	
3002	ADD R3, R3, #8	
3003	LDI R1, #100	
3004	ADD R2, R1, #0	
3005	ADD R2, R2, R2	
3006	ADD R3, R3, #-1	
3007	BRnp #-3	
3008	LD R4, #992	
3009	AND R1, R1, R4	
3010	NOT R1, R1	
3011	ADD R1, R1, #1	
3012	ADD R2, R2, R1	
3013	BRnp #1	
3014	ADD R5, R5, #1	
3015	<i>End program</i>	
..		
3103	4001	
3104	4000	
..		
..		
4000	x3472	
4001	xFF00	

6. What does the following instruction do to the PC and the registers?
3000 JSR #64

7. Write an LC-3 program to XOR the content of memory locations 4001 and 4002.
Start at memory location 3000. (note: $A \text{ XOR } B = \overline{AB} + \overline{\overline{A}B}$)

8. Explain the difference between LDI, LDR, and LEA.

9. Write a program that loads the value 107 into memory location 3010.