

# LC-3 Instruction Set

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
<u>ADD</u>	0	0	0	1	DR			SR1			0	0	0	SR2		
<u>ADD</u>	0	0	0	1	DR			SR1			1	imm5				
<u>AND</u>	0	1	0	1	DR			SR1			0	0	0	SR2		
<u>AND</u>	0	1	0	1	DR			SR1			1	imm5				
<u>BR</u>	0	0	0	0	n	z	p	PCoffset9								
<u>JMP</u>	1	1	0	0	0	0	0	BaseR			0	0	0	0	0	0
<u>JSR</u>	0	1	0	0	1	PCoffset11										
<u>JSRR</u>	0	1	0	0	0	0	0	BaseR			0	0	0	0	0	0
<u>LD</u>	0	0	1	0	DR			PCoffset9								
<u>LDI</u>	1	0	1	0	DR			PCoffset9								
<u>LDR</u>	0	1	1	0	DR			BaseR			offset6					
<u>LEA</u>	1	1	1	0	DR			PCoffset9								
<u>NOT</u>	1	0	0	1	DR			SR			1	1	1	1	1	1
<u>RET</u>	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0
<u>RTI</u>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>ST</u>	0	0	1	1	SR			PCoffset9								
<u>STI</u>	1	0	1	1	SR			PCoffset9								
<u>STR</u>	0	1	1	1	SR			BaseR			offset6					
<u>TRAP</u>	1	1	1	1	0	0	0	0	trapvect8							
null	1	1	0	1												

- Underlined instructions set the condition code.
- *Italicized* instructions use a program counter offset.
- Non-register sources are signed, 2's complement, sign-extended integers.