

Simple 12 ISA

Opcode	Instruction	RTL	Example
0000	JMP X	$PC \leftarrow X$	
0001	JN X	If $A < 0$ then $PC \leftarrow X$ else $PC++$	
0010	JZ X	If $A = 0$ then $PC \leftarrow X$ else $PC++$	
0100	LOAD X	$A \leftarrow M(X)$, $PC++$	
0101	STORE X	$M(X) \leftarrow A$, $PC++$	
0110	LOADI		
0111	STOREI		
1000	AND X	$A \leftarrow A \text{ and } M(X)$, $PC++$	
1001	OR X	$A \leftarrow A \text{ or } M(X)$, $PC++$	
1010	ADD X	$A \leftarrow A + M(X)$, $PC++$	
1011	SUB X	$A \leftarrow A - M(X)$, $PC++$	
1111	HALT		

Instruction format: opcode (4 bits) | address (8 bits)