

Instruction	uOP	Register Transfers	
FETCH	FETCH1	MAR \leftarrow PC	
	FETCH2	DR \leftarrow M[MAR]	PC \leftarrow PC + 1
	FETCH3	IR \leftarrow DR	
NOP	NOP1		
LOAD	LOAD1	MAR \leftarrow PC	
	LOAD2	DR \leftarrow M[MAR]	PC \leftarrow PC + 1
	LOAD3	MAR \leftarrow DR	
	LOAD4	DR \leftarrow M[MAR]	
	LOAD5	A \leftarrow DR	
STORE	STORE1	MAR \leftarrow PC	
	STORE2	DR \leftarrow M[MAR]	PC \leftarrow PC + 1
	STORE3	MAR \leftarrow DR	
	STORE4	DR \leftarrow A	
	STORE5	M[MAR] \leftarrow DR	
MOVE	MOVE1	R \leftarrow A	
ADD	ADD1	A \leftarrow A+R	
XOR	XOR1	A \leftarrow A xor R	
TESTNZ	TESTNZ1	Z \leftarrow V'	
TESTZ	TESTZ1	Z \leftarrow V	
JUMPX	JUMPX1	MAR \leftarrow PC	
	JUMPX2	DR \leftarrow M[MAR]	
	JUMPX3	PC \leftarrow DR	
JUMPZX	JUMPZX1	MAR \leftarrow PC	
	JUMPZX2	DR \leftarrow M[MAR]	PC \leftarrow PC + 1
	JUMPZX3	IF (Z=1) THEN PC \leftarrow DR	
LOADSPX	LOADSPX1	MAR \leftarrow PC	
	LOADSPX2	DR \leftarrow M[MAR]	
	LOADSPX3	SP \leftarrow DR	
PEEK	PEEK1	MAR \leftarrow SP	
	PEEK2	DR \leftarrow M[MAR]	
	PEEK3	A \leftarrow DR	
PUSH	PUSH1	SP \leftarrow SP-1	
	PUSH2	MAR \leftarrow SP	DR \leftarrow A
	PUSH3	M[MAR] \leftarrow DR	
POP	POP1	MAR \leftarrow SP	
	POP2	DR \leftarrow M[MAR]	
	POP3	A \leftarrow DR	
	POP4	SP \leftarrow SP+1	
HALT	HALT	PC \leftarrow 0	