

	Instruction Format	Eample	Meaning	Comment
Arithmetic and Logic	ADD R R R	ADD R1 R2 R3	$R1 \leftarrow R2 + R3$	
	ADD R R #	ADD R1 R2 #231	$R1 \leftarrow R2 + 231$	Immediate Mode
	SUB R R R	SUB R1 R2 R3	$R1 \leftarrow R2 - R3$	
	SUB R R #	SUB R1 R2 #1	$R1 \leftarrow R2 - 1$	Immediate Mode
	AND R R R	AND R1 R2 R3	$R1 \leftarrow R2 \& R3$	Bitwise AND
	AND R R #	AND R1 R2 #0xF00F	$R1 \leftarrow R2 \& 0xF00F$	Immediate Mode
	OR R R R	OR R1 R2 R3	$R1 \leftarrow R2 R3$	Bitwise OR
	OR R R #	OR R1 R2 #b1001	$R1 \leftarrow R2 b1001$	Immediate Mode
	NOT R R	NOT R1 R2	$R1 \leftarrow \sim R2$	Bitwise NOT
	SHL R R	SHL R1 R2	$R1 \leftarrow R2 \ll 1$	LSb = 0
SHR R R	SHR R1 R2	$R1 \leftarrow R2 \ggg 1$	MSb = 0	

	Instruction Format	Eample	Meaning	Comment
Data Movement	LOAD R #	LOAD R1 #27	$R1 \leftarrow 27$	Immediate Mode
	LOAD R L	LOAD R1 X	$R1 \leftarrow MM[X]$	Direct Mode
	LOAD R #L	LOAD R1 #XARR	$R1 \leftarrow XARR$	Immediate Label
	LOAD R R	LOAD R1 R0	$R1 \leftarrow MM[R0]$	Indirect Mode
	LOAD R R +	LOAD R1 R0 +4	$R1 \leftarrow MM[R0+4]$	Indirect Mode
	STORE R L	STORE R1 X	$MM[X] \leftarrow R1$	Direct Mode
	STORE R R	STORE R1 R0	$MM[R0] \leftarrow R1$	Indirect Mode
	STORE R R +	STORE R1 R0 +8	$MM[R0+8] \leftarrow R1$	Indirect Mode
	MOV R R	MOV R1 R2	$R1 \leftarrow R2$	Copy

	Instruction Format	Eample	Meaning	Comment
Branching	JUMP L	JUMP JLOC	$PC = JLOC$	
	BNEG R L	BNEG R1 BLOC	$IF R1 < 0 THEN PC = BLOC$	
	BPOS R L	BPOS R1 BLOC	$IF R1 > 0 THEN PC = BLOC$	
	BZERO R L	BZERO R1 BLOC	$IF R1 == 0 THEN PC = BLOC$	
	BNZERO R L	BNZERO R1 BLOC	$IF R1 != 0 THEN PC = BLOC$	
	BODD R L	BODD R1 BLOC	$IF R1 \% 2 != 0 THEN PC = BLOC$	
	BEVEN R L	BEVEN R1 BLOC	$IF R1 \% 2 == 0 THEN PC = BLOC$	
	BEQ R R L	BEQ R1 R2 BLOC	$IF R1 == R2 THEN PC = BLOC$	
	BNEQ R R L	BNEQ R1 R2 BLOC	$IF R1 != R2 THEN PC = BLOC$	
	BGT R R L	BGT R1 R2 BLOC	$IF R1 > R2 THEN PC = BLOC$	
	BGEQ R R L	BGEQ R1 R2 BLOC	$IF R1 >= R2 THEN PC = BLOC$	
	BLEQ R R L	BLEQ R1 R2 BLOC	$IF R1 <= R2 THEN PC = BLOC$	
BLT R R L	BLT R1 R2 BLOC	$IF R1 < R2 THEN PC = BLOC$		

	Instruction Format	Eample	Meaning	Comment
Function Calling	CALL L	CALL FUNC	$R12 \leftarrow PC + 4; PC \leftarrow FUNC$	Return value in R14
	RET	RET	$PC \leftarrow R12$	Return value in R14
	PUSH R	PUSH R2	$MM[R13] \leftarrow R2; R13 \leftarrow R13 - 4$	Add to top
	POP R	POP R2	$R13 \leftarrow R13 + 4; R2 \leftarrow MM[R13]$	Remove from top