

	INSTRUCTION	OPCODE	OPERATION	DESCRIPTION
	NOP	00000000	No operation	No operation
	RESET	00000001 0000xxxx	$R[R1] \leftarrow 0$	Resets any given register R1.
MEMORY	LDAC	00000010 a	$AC \leftarrow M[a]$	Load value in memory to AC.
	LDACREG	00000011 000xxxxx	$AC \leftarrow M[R1]$	Load value from the given memory address in any register R1 to AC.
	LDACMULTI	00000100 000xxxxx	$AC \leftarrow M[R1]$	Load value from the given memory addresses in any register R1 of each core, to AC.
	STAC	00000101 a	$M[a] \leftarrow AC$	Store value in AC to memory.
	STACREG	00000110 000xxxxx	$M[R1] \leftarrow AC$	Store value in AC to the given memory address in any register R1.
	MOVETOAC	00000111 000xxxxx	$AC \leftarrow R[R1]$	Moves any register R1 to AC.
	MOVEAC	00001000 000xxxxx	$R[R1] \leftarrow AC$	Moves AC to any register R1.
	CLAC	00001001	$AC \leftarrow 0, Z \leftarrow 0$	Clears AC, Clears Z flag.
	JUMP	00001010 a	Goto a	Jump to instruction address a.
BRANCHING	JUMPZ	00001011 a	If (Z = 1) goto a	Jump to instruction address a if Z = 1.
ARITHMATIC	ADD	00001100 000xxxxx	$AC \leftarrow AC + R[R1]$	Add any given register R1 to AC.
	INC	00001101 00xxxxx	$R[R1] \leftarrow R[R1] + 1$	Increments any register R1 by 1.
	MUL	00011111 000xxxxx	$AC \leftarrow AC * R[R1]$	Multiply AC by any given register R1.
	XOR	00010000 000xxxx	$AC \leftarrow AC (+) R[R1]$, if $AC (+) R[R1] = 0$ then $Z \leftarrow 1$, else $Z \leftarrow 0$	Performs XOR on AC with any given register R1. If result is zero set Z flag to 1.
	DIV	00010001 xxxxxxxx	$AC \leftarrow AC / R[R1]$, if $AC / R[R1] = 0$ then $Z \leftarrow 1$, else $Z \leftarrow 0$	Divides AC by any given register R1. If result is zero set Z flag to 1.
	MOD	00010010 xxxxxxxx	$AC \leftarrow AC \% R[R1]$	Performs MOD on AC by any given register R1.