MINI RISC Opcodes				Syntax																
Category	**Opcode**	**Description**	**Mnemonic**	**15**	**14**	**13**	**12**	**11**	10	9	8	7	6	5	4	3	2	1	0
R- TYPE	000xx	Add 2 regs and store in 3rd	ADD	0	0	0	0	0	res			reg_1			reg2			X	X
R- TYPE	000xx	Multiply 2 regs and store in 3rd	MUL*	0	0	0	0	1	X	X	X	reg_1			reg2			X	X
R- TYPE	000xx	Subtract 2 regs and store in 3rd	SUB	0	0	0	1	0	res			reg_1			reg2			X	X
R- TYPE	000xx	Divide 2 regs and store in 3rd	DIV *	0	0	0	1	1	X	X	X	reg_1			reg2			X	X
R- TYPE	001xx	Complement all the bits in reg	NOT	0	0	1	0	0	res			reg_1			X	X	X	X	X
R- TYPE	001xx	AND 2 regs and store in 3rd	AND	0	0	1	0	1	res			reg_1			reg_2			X	X
R- TYPE	001xx	OR 2 regs and store in 3rd	OR	0	0	1	1	0	res			reg_1			reg_2			X	X
R- TYPE	001xx	XOR 2 regs and store in 3rd	XOR	0	0	1	1	1	reg1			reg_1			reg_2			X	X
R- TYPE	010xx	Increment	INC	0	1	0	0	0	reg			X	X	X	X	X	X	X	X
R- TYPE	010xx	Compare 2 registers	CMP	0	1	0	0	1	reg				reg2				X	X	X
R- TYPE	010xx	Rotate Right	RR	0	1	0	1	0	reg				X	X	X	X	X	X	X
R- TYPE	010xx	Rotate Left	RL	0	1	0	1	1	reg				X	X	X	X	X	X	X
R- TYPE	011xx	Set Bit	SETB	0	1	0	0	0	reg			bit_position				X	X	X	X
R- TYPE	011xx	Clear Bit	CLRB	0	1	0	0	1	reg			bit_position				X	X	X	X
R- TYPE	011xx	Set Flag	SETF	1	1	0	1	1	X	X	X	bit_position				X	X	X	X
R- TYPE	011xx	Swap the upper and lower bytes	SWAP	0	0	1	1	1	reg			X	X	X	X	X	X	X	X
B- TYPE	100xx	Unconditional Jump	JMP	1	0	0	0	0	11 bit address										
B- TYPE	100xx	Jump if Equal to Zero	JZ*	1	0	0	0	1	reg			8 bit rel address							
B- TYPE	100xx	Jump if Equal (if eq flag is set)	JEQ	1	0	0	1	0	11 bit address										
B- TYPE	100xx	Jump if not equal	JNQ	1	0	0	1	1	11 bit address										
B- TYPE	101xx	Jump if CMP Flag is set	JGT	1	0	1	0	0	11-bit address										
B- TYPE	101xx	Jump if CMP Flag is cleared	JLT	1	0	1	0	1	11-bit address										
B- TYPE	101xx	Jump if general purpose flag is set	JSF	1	0	1	1	0	11-bit address										
B- TYPE	101xx	Jump if Carry is Set	JC	1	0	1	1	1	11-bit address										
M- TYPE	110xx	Loads byte held at an address	LOAD	1	1	0	0	0	reg1			[reg2] (has addr)			X	X	X	X	X
M- TYPE	110xx	Stores value in reg to memory	STORE	1	1	0	0	1	reg1			[reg2] (has addr)			X	X	X	X	X
I- TYPE	110xx	Loads Immediate byte to reg	LB	1	1	0	1	0	reg1			Immediate_lower_byte							
Uncategorized	110xx	Halt or Stop execution	HALT	1	1	1	0	0	X	X	X	X	X	X	X	X	X	X	X
Uncategorized	111xx	Move from reg a to reg b	MOV	0	1	0	1	0	reg_b			reg_a				X	X	X	X
Uncategorized	111xx	Move to I/O registers	MOVIO	1	1	1	0	1	Port_num		reg			X	X	X	X	X	X
Uncategorized	111xx	Move to registers from I/O pins	MOVR	1	1	1	1	0	Port_num		reg								
Uncategorized	111xx	[Reserved]		1	1	1	1	1											