Instructions		Machine Code						ALU Code	JR	Control Lines										
		op [31:26]	rs [25:21]	rt [20:16]	rd [15:11]	sh [10:6]	fn[5:0]			RegDst [1:0]	RegData[1:0]	RegWr	ALUSrc	ALUOp[3:0]	MemWr[1:0]	MemRd[1:0]	MemtoReg	Jump	Beq	Bne
R-Format	add $t1, $t2, $t3	0	$t2	$t3	$t1	0	32	6	0	1	1	1	0	0	0	0	0	0	0	0
	sub $t1, $t2, $t3	0	$t2	$t3	$t1	0	34	7	0	1	1	1	0	0	0	0	0	0	0	0
	and $t1, $t2, $t3	0	$t2	$t3	$t1	0	36	0	0	1	1	1	0	0	0	0	0	0	0	0
	or $t1, $t2, $t3	0	$t2	$t3	$t1	0	37	1	0	1	1	1	0	0	0	0	0	0	0	0
	xor $t1, $t2, $t3	0	$t2	$t3	$t1	0	38	4	0	1	1	1	0	0	0	0	0	0	0	0
	nor $t1, $t2, $t3	0	$t2	$t3	$t1	0	39	3	0	1	1	1	0	0	0	0	0	0	0	0
	slt $t1, $t2, $t3	0	$t2	$t3	$t1	0	42	12	0	1	1	1	0	0	0	0	0	0	0	0
	sll $t1, $t2, 5	0	0	$t2	$t1	5	0	13	0	1	1	1	0	0	0	0	0	0	0	0
	srl $t1, $t2, 5	0	0	$t2	$t1	5	2	14	0	1	1	1	0	0	0	0	0	0	0	0
	sra $t1, $t2, 5	0	0	$t2	$t1	5	3	15	0	1	1	1	0	0	0	0	0	0	0	0
	jr $ra	0	$ra		0	0	8	DNE	1	x	x	0	x	(NOP) 11	0	0	0	2	0	0
I-Format	addi $t1, $t2, 5	8	$t2	$t1	16-bit immideate			6	0	0	1	1	1	6	0	0	0	0	0	0
	andi $t1, $t2, 5	12	$t2	$t1	16-bit immideate			0	0	0	1	1	1	0	0	0	0	0	0	0
	ori $t1, $t2, 5	13	$t2	$t1	16-bit immideate			1	0	0	1	1	1	1	0	0	0	0	0	0
	xori $t1, $t2, 5	14	$t2	$t1	16-bit immideate			4	0	0	1	1	1	4	0	0	0	0	0	0
	slti $t1, $t2, 5	10	$t2	$t1	16-bit immideate			12	0	0	1	1	1	12	0	0	0	0	0	0
	lui $t1, 5	15	0	$t1	16-bit immideate			6	0	0	2	1	x	(NOP) 11	0	0	0	0	0	0
	lw $t1, 8($t2)	35	$t2	$t1	16-bit immideate			6	0	0	1	1	1	6	0	1	1	0	0	0
	lh $t1, 6($t2)	33	$t2	$t1	16-bit immideate			6	0	0	1	1	1	6	0	2	1	0	0	0
	lb $t1, 5($t2)	32	$t2	$t1	16-bit immideate			6	0	0	1	1	1	6	0	3	1	0	0	0
	sw $t1, 8($t2)	43	$t2	$t1	16-bit immideate			6	0	x	x	0	1	6	1	0	0	0	0	0
	sh $t1, 6($t2)	41	$t2	$t1	16-bit immideate			6	0	x	x	0	1	6	2	0	0	0	0	0
	sb $t1, 5($t2)	40	$t2	$t1	16-bit immideate			6	0	x	x	0	1	6	3	0	0	0	0	0
	beq $t1, $t2, Label	4	$t2	$t1	16-bit address			7	0	x	x	0	0	7	0	0	0	0	1	0
	bne $t1, $t2, Label	5	$t2	$t1	16-bit address			7	0	x	x	0	0	7	0	0	0	0	0	1
J-Format	j Label	2	26-bit address					DNE	0	x	x	0	x	(NOP) 11	0	0	0	1	0	0
	jal Label	3	26-bit address					DNE	0	2	0	1	x	(NOP) 11	0	0	0	1	0	0