

Assembly to Machine Language Translation Guide

op = 10, Format 3 Instructions			
op3	Instruction	op3	Instruction
000000	add	100000	taddcc
000001	and	100001	tsubcc
000010	or	100010	taddctv
000011	xor	100011	tsubcctv
000100	sub	100100	mulsc
000101	andn	100101	sll
000110	orn	100110	srl
000111	xnor	100111	sra
001000	addx	101000	rdy
001001	<i>unimp</i>	101001	rdpsr
001010	<i>unimp</i>	101010	rdwim
001011	<i>unimp</i>	101011	rdtbr
001100	subx	101100	<i>unimp</i>
001101	<i>unimp</i>	101101	<i>unimp</i>
001110	<i>unimp</i>	101110	<i>unimp</i>
001111	<i>unimp</i>	101111	<i>unimp</i>
010000	addcc	110000	wry
010001	andcc	110001	wrpsr
010010	orcc	110010	wrwim
010011	xorcc	110011	wrtbr
010100	subcc	110100	fpop1
010101	andncc	110101	fpop2
010110	orncc	110110	cpop1
010111	xnorcc	110111	cpop2
011000	addxcc	111000	jmp1
011001	<i>unimp</i>	111001	rett
011010	<i>unimp</i>	111010	ticc
011011	<i>unimp</i>	111011	iflush
011100	subxcc	111100	save
011101	<i>unimp</i>	111101	restore
011110	<i>unimp</i>	111110	<i>unimp</i>
011111	<i>unimp</i>	111111	<i>unimp</i>

op = 11, Format 3 Instructions			
op3	Instruction	op3	Instruction
000000	ld	100000	ldf
000001	ldub	100001	ldfsr
000010	lduh	100010	<i>unimp</i>
000011	ldd	100011	lddf
000100	st	100100	stf
000101	stb	100101	stfsr
000110	sth	100110	stdfq
000111	std	100111	stdf
001000	<i>unimp</i>	101000	<i>unimp</i>
001001	ldsb	101001	<i>unimp</i>
001010	ldsh	101010	<i>unimp</i>
001011	<i>unimp</i>	101011	<i>unimp</i>
001100	<i>unimp</i>	101100	<i>unimp</i>
001101	ldstub	101101	<i>unimp</i>
001110	<i>unimp</i>	101110	<i>unimp</i>
001111	swap	101111	<i>unimp</i>
010000	lda	110000	ldc
010001	lduba	110001	ldcsr
010010	lduha	110010	<i>unimp</i>
010011	ldda	110011	lddc
010100	sta	110100	stc
010101	stba	110101	stcsr
010110	stha	110110	stdcq
010111	stda	110111	stdc
011000	<i>unimp</i>	111000	<i>unimp</i>
011001	ldsba	111001	<i>unimp</i>
011010	ldsha	111010	<i>unimp</i>
011011	<i>unimp</i>	111011	<i>unimp</i>
011100	<i>unimp</i>	111100	<i>unimp</i>
011101	ldstuba	111101	<i>unimp</i>
011110	<i>unimp</i>	111110	<i>unimp</i>
011111	swapa	111111	<i>unimp</i>

Branch, Integer Conditions op2 = 010	
0000	bn
0001	be, bz
0010	ble
0011	bl
0100	bleu
0101	blu, bcs
0110	bneg
0111	bvs
1000	ba
1001	bne, bnz
1010	bg
1011	bge
1100	bgu
1101	bgeu, bcc
1110	bpos
1111	bvc

Format 2 Instructions	
op2	Instruction
010	Branch, integer
110	Branch, floating
100	Sethi

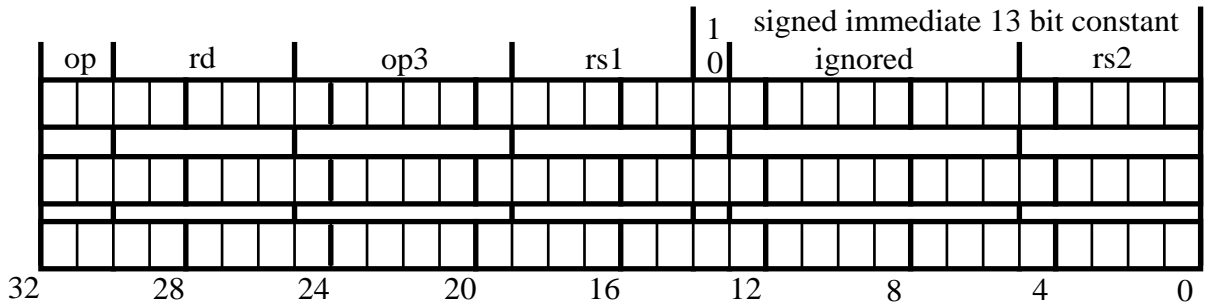
Branch, Floating Conditions op2 = 110	
0000	fbn
0001	fbne
0010	fb1g
0011	fbul
0100	fbl
0101	fbug
0110	fbg
0111	fbu
1000	fba
1001	fbe
1010	fbue
1011	fbge
1100	fbuge
1101	fb1e
1110	fbule
1111	fbo

%g0	00000	%o0	01000	%l0	10000	%i0	11000
%g1	00001	%o1	01001	%l1	10001	%i1	11001
%g2	00010	%o2	01010	%l2	10010	%i2	11010
%g3	00011	%o3	01011	%l3	10011	%i3	11011
%g4	00100	%o4	01100	%l4	10100	%i4	11100
%g5	00101	%o5	01101	%l5	10101	%i5	11101
%g6	00110	%sp	01110	%l6	10110	%fp	11110
%g7	00111	%o7	01111	%l7	10111	%i7	11111

0x0	0000	0x8	1000
0x1	0001	0x9	1001
0x2	0010	0xa	1010
0x3	0011	0xb	1011
0x4	0100	0xc	1100
0x5	0101	0xd	1101
0x6	0110	0xe	1110
0x7	0111	0xf	1111

op	Format	Type
00	2	Branch
01	1	Call
10	3	Register
11	3	Memory

Format 3 Instructions



Format 2 Instructions

