Arc Assembly language code (simplified SPARC code)

Instruction type	Symbolic Rep.	Description
Data Transfer		
	ld [x], %r1	load %r1 with the contents of X
	ld %r0+x, %r1	load %r1 with the from the address of %r0+x
	st %r1, [x]	store the contents of %r1 in X
	st %r1, %r0+x	store the contents of %r1 in the address of %r0+x
Branch		
	be label	Branch when z condition is 1 to label
	bne label	Branch when z condition is 0 to label
	bcs label	Branch when c condition is 1 to label
	bcc label	Branch when c condition is 0 to label
	bneg label	Branch when n condition is 1 to label
	bpos label	Branch when n condition is 0 to label
	bvs label	Branch when v condition is 1 to label
	bvc label	Branch when v condition is 0 to label
	ba label	Branch to label
	jmpl %r15+4, %r2	set the PC to %r15+4 and set current PC in %r2
	call label	branch to the label, and put PC of call instruction in %r15
	Condition z,c,n,v are set by arithmetic and logic opcodes 　　　　　　　　　n =1, when negative 　　　　　　　　　z =1, when zero 　　　　　　　　　v =1, when overflow 　　　　　　　　　c =1, when carry	
Arithmetic		
	addcc %r1, %r2, %r3	%r3 = %r1 + %r2 (or number) and set condition codes
	add %r1, %r2, %r3	%r3 = %r1 + %r2 (or number)
	subcc %r1, %r2, %r3	%r3 = %r1 – %r2 (or number) and set condition codes
	sub %r1, %r2, %r3	%r3 = %r1 – %r2 (or number)
	srl %r1, %r2, %r3	Shift %r1 right by the value in %r2 (or number) and store in %r3. Vacant bits are filled with 0
	sll %r1, %r2, %r3	Shift %r1 left by the value in %r2 (or number) and store in %r3. Vacant bits are filled with 0
	sra %r1, %r2, %r3	Shift %r1 right by the value in %r2 (or number) and store in %r3. The sign bit is replicated as the value is shifted.
Logic		
	orcc %r1, %r2, %r4	%r4 = %r1 OR %r2 (or number) and set N and Z conition
	or %r1, %r2, %r3	%r3 = %r1 OR %r2 (or number)
	andcc %r1, %r2, %r3	$r3 = %r1 AND %r2 (or number) and set N and Z conition
	and %r1, %r2, %r3	$r3 = %r1 AND %r2 (or number)
Program markers		
	halt	Stops the simulator
	nop	Performs no operation, but increments the program counter
	.begin	start of assembly code
	.end	end of assembly code
	!	comment. Begins with ! and continues to end of line.
	.org 2048	Start assembly code at address 2048