Assembly language instructions set:

Instruction	opcode	Type	syntax type	example
nop	000000	No operation	SINGLE	nop
xor	000001	Logic	CMD_3_REGS	xor R1 R2 R3
and	000010	Logic	CMD_3_REGS	and R1 R2 R3
nxor	000100	Logic	CMD_3_REGS	nxor R1 R2 R3
nor	000101	Logic	CMD_3_REGS	nor R1 R2 R3
nand	000110	Logic	CMD_3_REGS	nand R1 R2 R3
add	000111	Arithmetic	CMD_3_REGS	add R1 R2 R3
sub	001000	Arithmetic	CMD_3_REGS	sub R1 R2 R3
mul	001001	Arithmetic	CMD_3_REGS	mul R1 R2 R3
div	001010	Arithmetic	CMD_3_REGS	div R1 R2 R3
addfp	001011	Arithmetic	CMD_3_REGS	addfp FR1 FR2 FR3
subfp	001100	Arithmetic	CMD_3_REGS	subfp FR1 FR2 FR3
mulfp	001101	Arithmetic	CMD_3_REGS	mulfp FR1 FR2 FR3
divfp	001110	Arithmetic	CMD_3_REGS	divfp FR1 FR2 FR3
cmpreg	001111	Compare	CMD_3_REGS	cmpreg FR1 FR2 FR3
not	010000	Logic	CMD_2_REGS	not R1 R2
abs	010001	Arithmetic	CMD_2_REGS	abs R1 R2
absfp	010010	Arithmetic	CMD_2_REGS	absfp FR1F R2
sllr	010011	shift/rotate	CMD_2_REGS	sllr R1 R2
slar	010100	shift/rotate	CMD_2_REGS	slar R1 R2
srlr	010101	shift/rotate	CMD_2_REGS	srlr R1 R2
srar	010110	shift/rotate	CMD_2_REGS	srar R1 R2
rotlr	010111	shift/rotate	CMD_2_REGS	rotlr R1 R2
rotrr	011000	shift/rotate	CMD_2_REGS	rotrr R1 R2
ldfm	011001	Load	CMD_REG_IMM	ldfm FR1 1000
stfm	011010	Store	CMD_REG_IMM	stfm 1000 FR1
xori	011011	Logic	CMD_2_REGS_IMM	xori R1 R2 20
andi	011100	Logic	CMD_2_REGS_IMM	ndi R1 R2 20
ori	011101	Logic	CMD_2_REGS_IMM	ori R1 R2 20
nxori	011110	Logic	CMD_2_REGS_IMM	nxori R1 R2 20
nori	011111	Logic	CMD_2_REGS_IMM	nori R1 R2 20
nandi	100000	Logic	CMD_2_REGS_IMM	nandi R1 R2 20
addi	100001	Arithmetic	CMD_2_REGS_IMM	addi R1 R2 20
subi	100010	Arithmetic	CMD_2_REGS_IMM	subi R1 R2 20
muli	100011	Arithmetic	CMD_2_REGS_IMM	muli R1 R2 20
divi	100100	Arithmetic	CMD_2_REGS_IMM	divi R1 R2 20
addfpi	100101	Arithmetic	CMD_2_REGS_IMM	addfpi FR1 FR2 20
subfpi	100110	Arithmetic	CMD_2_REGS_IMM	subfpi FR1 FR2 20
mulfpi	100111	Arithmetic	CMD_2_REGS_IMM	mulfpi FR1 FR2 20
divfpi	101000	Arithmetic	CMD_2_REGS_IMM	divfpi FR1 FR2 20
cmpregi	101001	Compare	CMD_2_REGS_IMM	cmpregi R1 R2 20

jmp	101010	jmp/branch	GOTO	jmp 1000
bre	101011	jmp/branch	GOTO	bre 1000
brue	101100	jmp/branch	GOTO	brue 1000
brg	101101	jmp/branch	GOTO	brg 1000
bls	101110	jmp/branch	GOTO	bls 1000
btr	101111	jmp/branch	GOTO	btr 1000
bfs	110000	jmp/branch	GOTO	bfs 1000
jmpr	110001	jmp/branch	CMD_REG_IMM	jmpr R1 4
slli	110010	shift/rotate	CMD_REG_IMM	slli R1 4
slai	110011	shift/rotate	CMD_REG_IMM	slai R1 4
srli	110100	shift/rotate	CMD_REG_IMM	srli R1 4
srai	110101	shift/rotate	CMD_REG_IMM	srai R1 4
rotli	110110	shift/rotate	CMD_REG_IMM	rotli R1 4
rotri	110111	shift/rotate	CMD_REG_IMM	rotri R1 4
ldfh	111000	Load	CMD_REG_IMM	ldfh FR1 1000000000000000
ldfl	111001	Load	CMD_REG_IMM	ldfl FR1 1000000000000000
ldf	111010	Load	CMD_REG_IMM	ldf FR1 3.25
goto	111111	jmp/branch	GOTO	goto 1000
mov	111100	Move	CMD_2_REGS	mov R1 R2
clr	111101	Clear	SINGLE	clr