

Supported Modes:

- Source operands are on left, result on right in assembly instructions
- Register mode (all operands in registers)
 - `add %g2,%o4,%o1` $[\%g2] + [\%o4] \rightarrow \%o1$
- Immediate mode
 - `sub %o2, 23, %g4` $[\%o2] - 23 \rightarrow \%g4$
- Base register with displacement
 - `ld [%g2 + 8], %o3` $[\%g2 + 8] \rightarrow \%o3$
- Register indirect with index
 - `stb %o4, [%g4 + %o2]` $[\%o4] \rightarrow [\%g4 + \%o2]$
 - `stb %o4, [%g4 + %g0]` $[\%o4] \rightarrow [\%g4]$ (%g0 always 0)

Loading a 32-bit constant or address into a register

To load an address into %g2:

sethi	%hi(X), %g2	high 22 bits of address
or	%g2, %lo(X), %g2	merge in low 10 bits

To load the constant 0x4A3C4098 into %o2:

0100101000111100010000 0010011000

sethi	0x128F10, %o4	high 22 bits
or	%o4, 0x98, %o4	low 10 bits

Synthetic instructions:

set	X, %g2
set	0x4A3C4098, %o4

%hi() and %lo() are implemented by the assembler