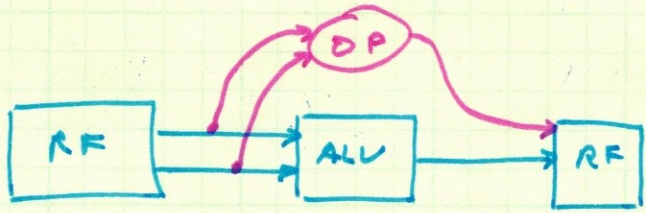


- 1) HARDWARE
- 2) SOFTWARE

Mios II CUSTOM INSTRUCTION INTERFACE

$$OP \quad RA, RB \rightarrow RC, M$$



COMBINATIONAL

32 DATA A →
 32 DATA B →
 RESULT → 32

MULTICYCLE

CLK →
 CLK-EN →
 START →
 DONE →

EXTENDED

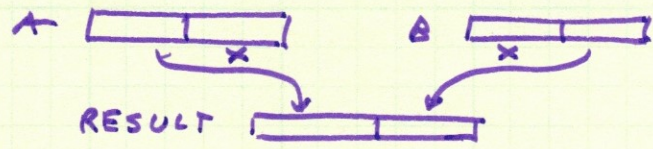
8 M →

INTERNAL REGISTER FILE

5 A →
 5 B →
 READA →
 READB →
 C → 5
 WRITEC →

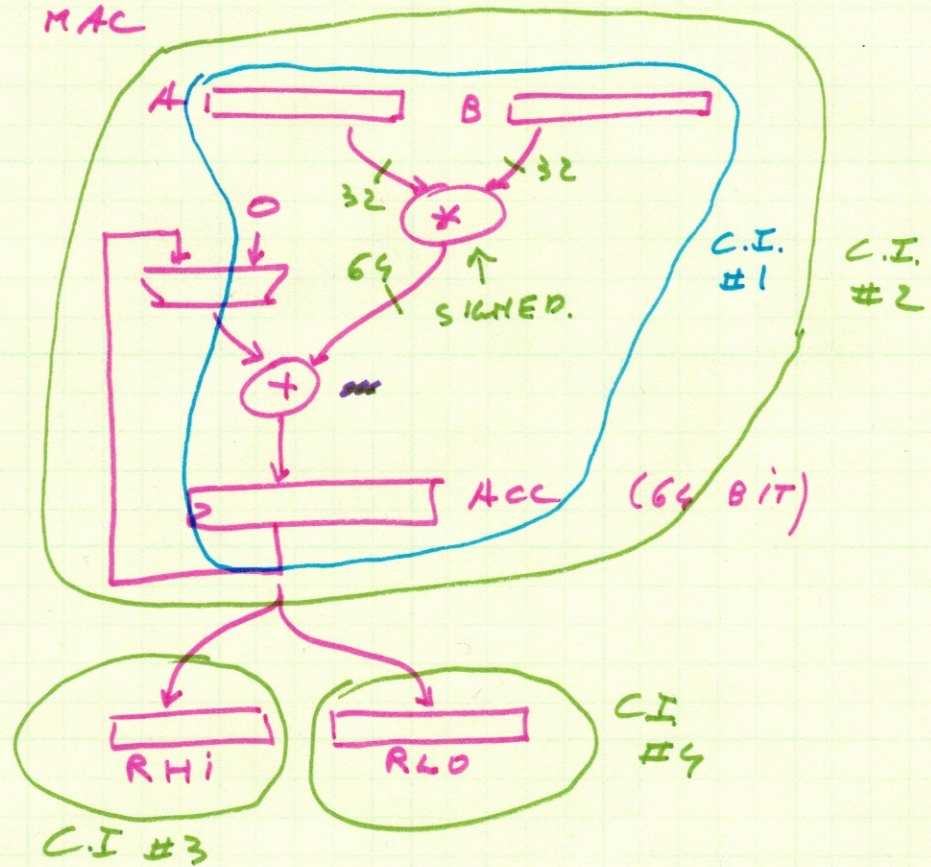
EXAMPLE 1

BITMERGE



EXAMPLE 2

MAC



UNSIGNED (32x32 → 64)

$$0000\ 0001 \times FFFF\ FFFF = 0000\ 0000\ FFFF\ FFFF$$

SIGNED (32x32 → 64)

$$1 \times -1 = -1$$

$$\text{OR } FFFF\ FFFF\ FFFF\ FFFF$$

! DO SIGN EXTENSION ON OPERAND