

Computer instructions need to determine what function is applied (eg ADD, MULT, OR, ...); the bits that select this are the OP CODE; what the operands are (like sources) as in $R1 + R2$; the bits that select this are the SRC A & SRC B bits; and where the result is stored (the DST bits).
Think of an instruction having an OP CODE part, SRC A part, SRC B part & DST part [not all required for every possible operation]

OP CODE	SRC A	SRC B	DST
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 = current instruction

This example computer has 32 registers so 5 bits are needed to specify each. (more for OP CODE)

Condition Code bits (whether previous operation resulted in a positive number, zero, etc) are used to control jumps/branches ← ie discontinuous changes to Program Counter.

Load/store fun RA or allowed for an address on the B bus. [for store data on A bus]

Note: the destination register controlled by which has an enabled clock

Note: use of HiZ to determine which register can talk on bus.

Note: Automatic increment of PC unless a LOAD occurs.

Note: we need to be able to interrupt the current stream of calculations and then restore it to the same point in the calculation