

ALU Block Diagram

A simple functional overview of the 4-bit ALU.

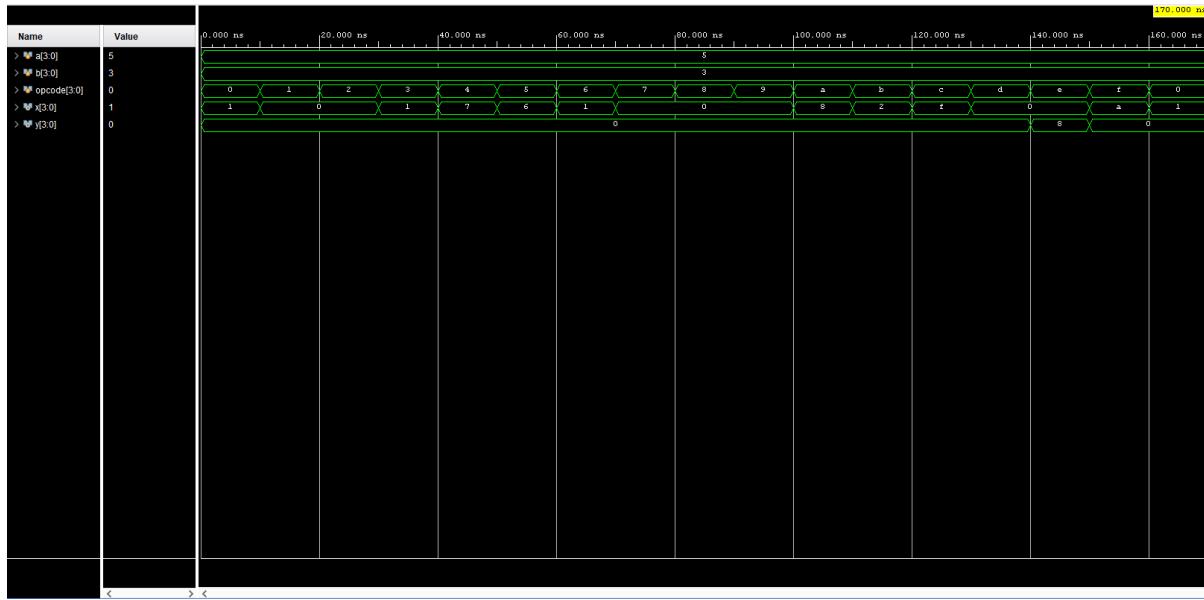


Diagram Description:

- Two 4-bit inputs: `A` and `B`
- One 4-bit control input: `Opcode`
- Two outputs:
 - `X` → Main operation result (4-bit)
 - `Y` → Carry or extended result (4-bit)
- Combinational logic selects the result based on the opcode.