TinyMicro ALU X67117_en

Design the ALU of the TinyMicro. The ALU has two operands, a and b, and one result c. The operation of the ALU is determined by the 2-bit control signals Op as follows:

- Op=00, $c = a + b$.
- Op=01, $c = a - b$.
- Op=10, $c = b - a$.
- Op=11, $c = a$.

Design a parametrized N-bit ALU with a default value of $N = 8$.

Specification

module *ALU*(*a*, *b*, *Op*, *c*);
    parameter *N*=8;
    input [*N*−1:0] *a*, *b*;
    input [1:0] *Op*;
    output [*N*−1:0] *c*;

Input

- a and b are the two input operands.
- Op indicates the type of operation.

Output

- c is the result of the operation.

Problem information

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