4-bit adder/subtractor X42916_en

Design a circuit that performs the addition or subtraction of two 4-bit numbers. The result (mod 16) must be represented in 4 bits also. The circuit has an input (*op*) that indicates which operation must be performed (0 for addition, 1 for subtraction).

Specification

module *add_sub4*(*a*, *b*, *op*, *result*);
input [3:0] *a*, *b*;
input *op*;
output [3:0] *result* ;

Input

- *a* and *b* are the two 4-bit operands.
- *op* indicates the type of operation (0 for addition, 1 for subtraction).

Output

- *result* is the 4-bit result of the operation (mod 16).

Problem information

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