
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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Generation : 2013-09-02 15:57:49

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