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The Virtual Learning Environment for Computer Programming

## 4-bit adder

X97441\_en

Design a circuit that performs the addition of two 4-bit numbers. The result (mod 16) must be represented in 4 bits also.

### Specification

module adder4(a, b, sum);
input [3:0] a, b;
output [3:0] sum;

### Hint

You may want to use several instances of a 1-bit full adder.

### Input

• *a* and *b* are the two 4-bit number.

### Output

• *sum* is the 4-bit output representing  $(a + b) \mod 16$ .

### **Problem information**

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