Four bit half subtractor   X05606_en

Create a four bit half subtractor capable of calculating the difference between two signed 4-bit numbers encoded using two's complement.

The root module must be called `sub`.

Input

x and y are four bit sized inputs each, encoded in two's completement.

Output

w is the four bit output, in two's complement ($y - x$)
b is the 1-bit output borrow.
ovf is a 1-bit signal that is raised if $y - x$ cannot be encoded in four bits.

Problem information

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