Hamming distance X51732_en

The Hamming distance between two bit-vectors is defined as the number of bit locations in which the two vectors differ. For example, the Hamming distance of the vectors 00110 and 10100 is 2. Design a circuit that calculates the Hamming distance of two 3-bit vectors. The distance should be represented with a 2-bit number.

Specification

module *hamming3*(*a*, *b*, *distance*);
  input [2:0] *a*, *b*;
  output [1:0] *distance* ;

Input

- *a* and *b* are the two 3-bit inputs.

Output

- *distance* represents the Hamming distance of the two input numbers.

Problem information

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