Add 7 bits X31534_en

Design a circuit that receives 7 inputs and generates a 3-bit output. The output represents the number of ones at the inputs.

Specification

module *add7bits*(*in*, *out*);
  input [6:0] *in*;
  output [2:0] *out*;

Hint

Use only full adders.

Input

- *in* is the input vector with 7 signals.

Output

- *out* is a 3-bit number representing the number of ones at the inputs.

Problem information

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