n-bit incrementer **X41839_en**

Design a circuit that receives an n-bit number and produces the same number increased by one unit $(\mathrm{mod}\ 2^n)$. The number of bits must be a parameter of the module, with the default value as shown in the specification.

Specification

module *incr*(*in*, *out*);
  parameter N=16;
  input [N−1:0] *in*;
  output [N−1:0] *out*;

Input

- *in* represents the n-bit input number.

Output

- *out* represents the n-bit output number.

Problem information

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