TinyMicro program counter X83229_en

Design the program counter of the TinyMicro. After reset, the program counter must have the value zero. The value will be modified at each cycle the counter is enabled. If signal *jump* is asserted, the program counter will be loaded with *jump_address*, otherwise it will be increased by one.
The number of bits of the program counter must be a parameter (N) with the default value shown in the specification.

Specification

module *program_counter*(*pc*, *jump_address*, *enable* , *jump*, *clk* , *rst*);
parameter N=6;
output [N−1:0] *pc*;
input [N−1:0] *jump_address*;
input *enable* , *jump*, *clk* , *rst* ;

Input

- *enable* is the signal the enables the change of the program counter value.
- *jump* is the signal that indicates that the program counter must be loaded with a new address.
- *jump_address* is the new value that must be stored in the program counter whem *jump* is asserted.
- *clk* is the clock signal of the circuit.
- *rst* is the reset signal of the circuit.

Output

- *pc* is the value of the program counter.

Problem information

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