Mod-7 up-down counter X47159_en

Design a mod-7 up-down counter. The counter must *count-up* when the input signal *up* is 1. Otherwise, the counter must *count-down*. After reset, the counter must be initialized at zero.

Specification

module *updown_mod7*(*up*, *count*, *clk*, *rst*);
input *up*, *clk*, *rst*;
output [2:0] *count*;

Input

- *up* is the input signal that indicates when the counter must count-up (1) or count-down (0).
- *clk* is the clock signal.
- *rst* is the synchronous reset signal.

Output

- *count* is the 3-bit output.

Problem information

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