

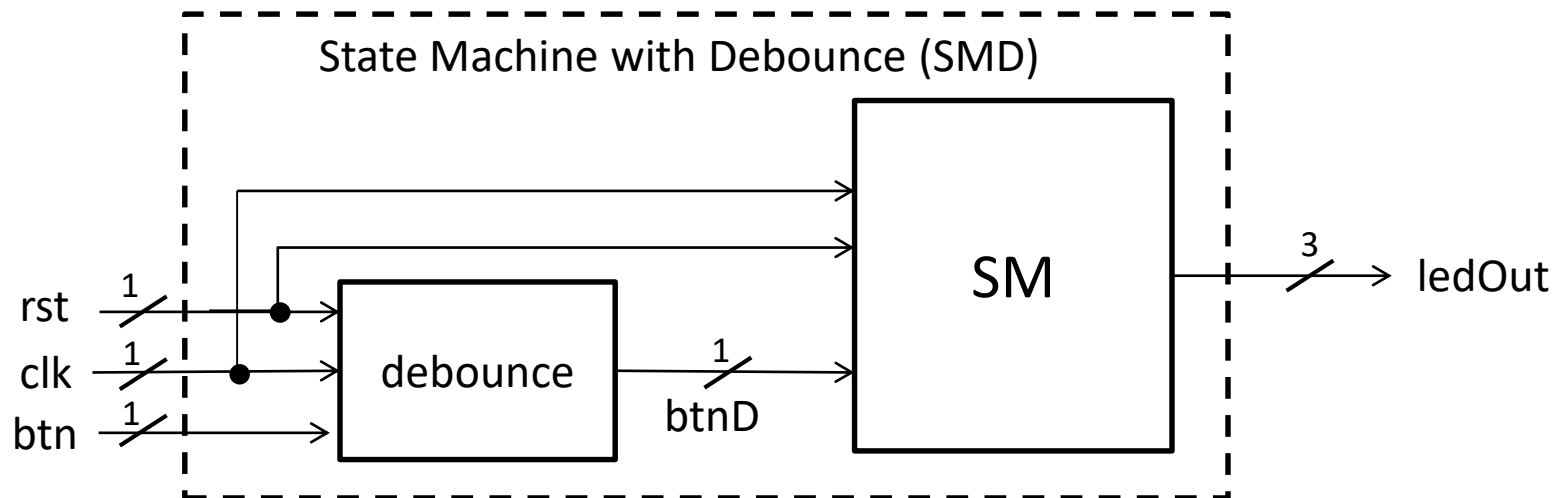
# State Machine with Debounce

## Design Description:

- When push button is pressed to generate a single transition from 0 to 1 or from 1 to 0, it generates multiple transitions because of the tendency of any two metal contacts to bounce.
- Debounce circuit aims to eliminate the multiple transitions.
- When push button is pressed, it should trigger a counter and your circuit should ignore input for a short while. That is, for as long as the timer counts.

## Design I/O:

- rst:** 1 bit input for reset
- clk:** 1 bit input for clock
- btn:** 1 bit input coming from a push-button
- ledOut:** 3 bit output



## Design Behavior:

- State machine part of your design is the same.
- For debounce circuit, your design should ignore input for a short while after push button is pressed. To do that, you should trigger a counter and while counting you should ignore input.

