Case 1 (Combinational Circuit)

Output depends on the input.

If you want to when you press the button the light is on, you can simply connect button to light.

A picture containing shoji, window, building

Description automatically generated

Case 2 (Sequential Circuit)

Output depends on the input and also on the output.

If you press on the button, the led should be turn on forever.

A close-up of a stethoscope

Description automatically generated with medium confidence

OR

Case 3 (Sequential Circuit)

If you press on the button for 1 cycle, the led should be turn on for 3 cycles.

A picture containing text, standing

Description automatically generated

OR

The problem was; when one of the inputs (of or gate) is 1, if somebody pressed on the button again, more than 3 cycles output can be 1.

We are using finite state machines for this one.