EE 201: More sequential logic in SystemVerilog

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27 February 2024

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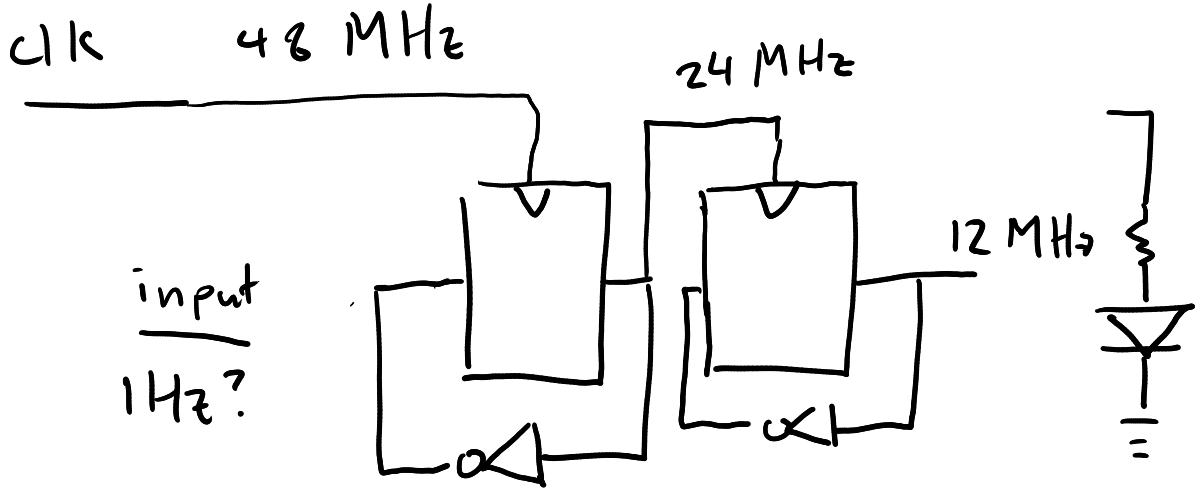
By the end of class today, you should be able to:

- Build a design for an FPGA from HDL to bitstream
- Build slightly more complicated sequential circuits using SystemVerilog

Blinking an LED?

~ 1 Hz

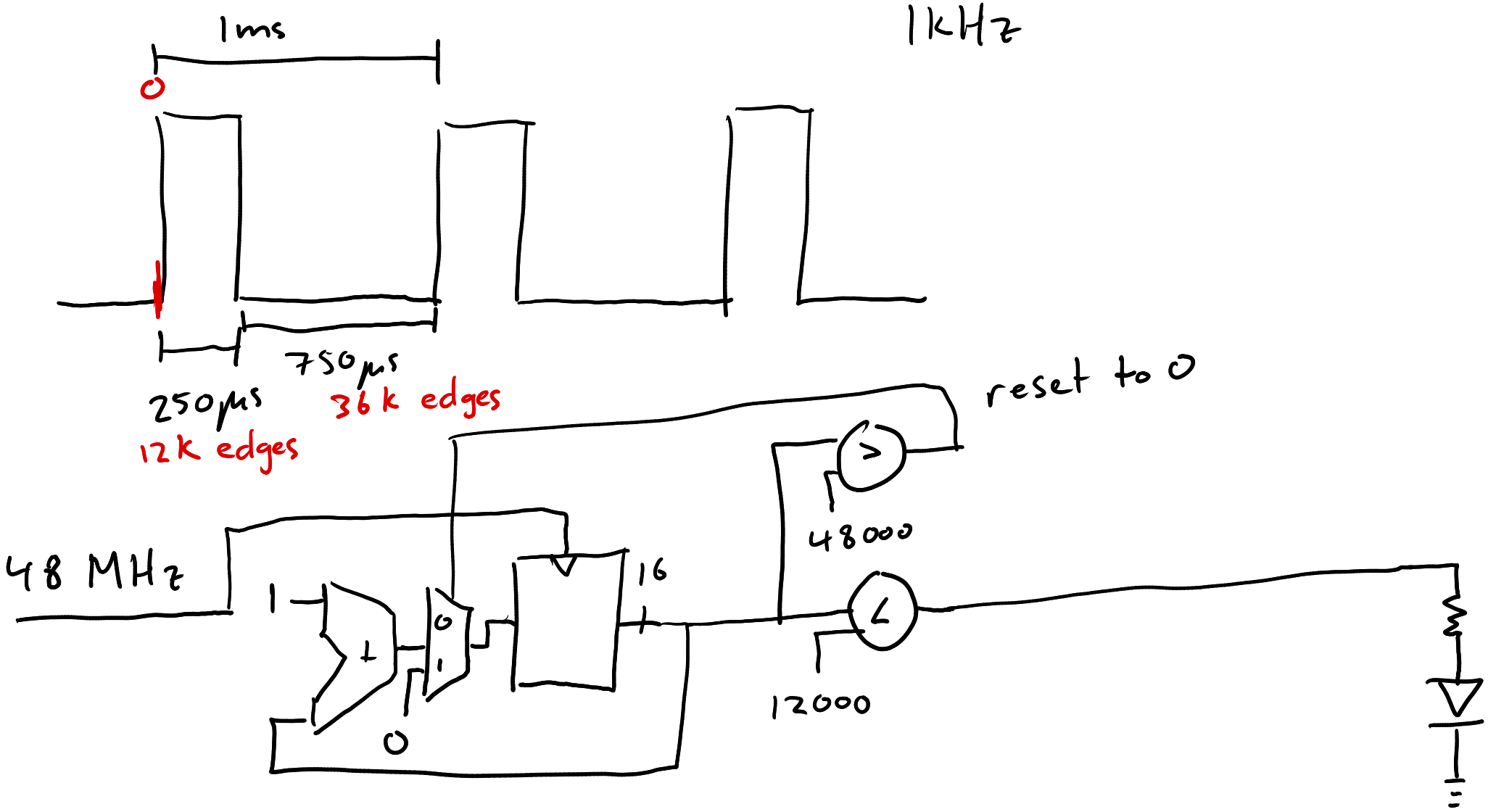
Design a circuit to blink an LED at a rate humans can see.
Assume your input clock runs at 48MHz.



$10^3 = 1000 \approx 1024 = 2^{10}$

$MHz = 10^6 \approx 2^{20}$ $\Rightarrow$ 26 flip-flops

PWM controller



Loadable counter

FPGA toolchains

See link on course website

For Thursday

1. Read book (3.4, 4.6)
2. Complete HW 3 if you haven't