Lab 5

61C Summer 2023

Logisim

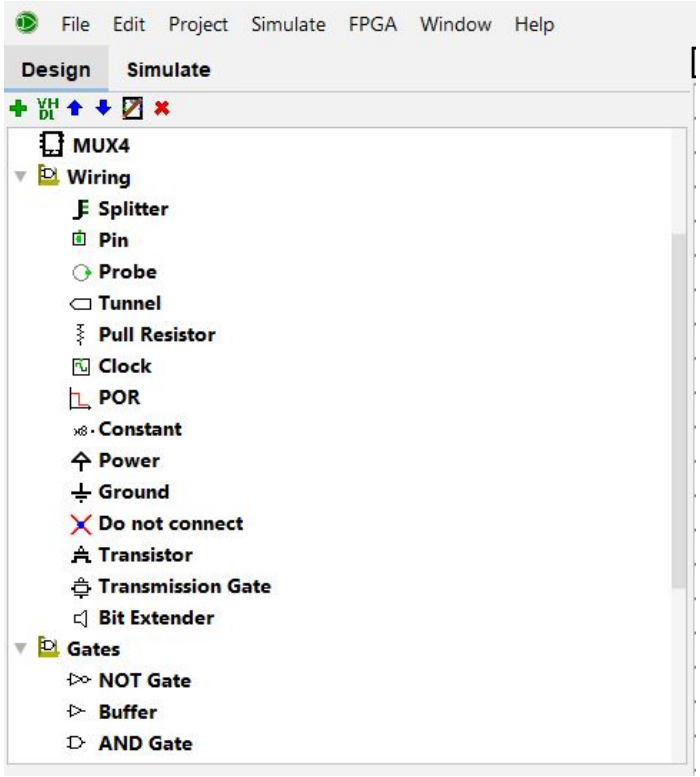
- We will be using logisim for these next two labs and proj 3
- In logisim, we can use logic gates, sub circuits, and state elements to build our circuits

Logisim components

- Basic built in circuit components can be found here

Logisim components

- Advanced components can be found here

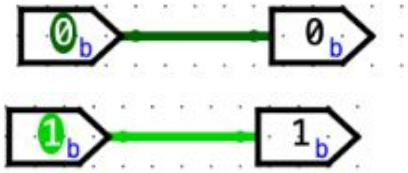


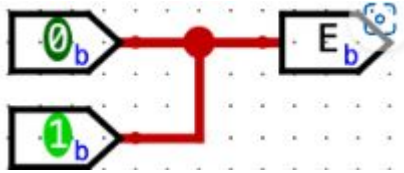
Logisim components

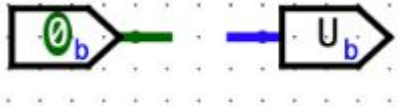
- Using Poke will allow you to check values of wires and toggle values of pins (useful for debugging)

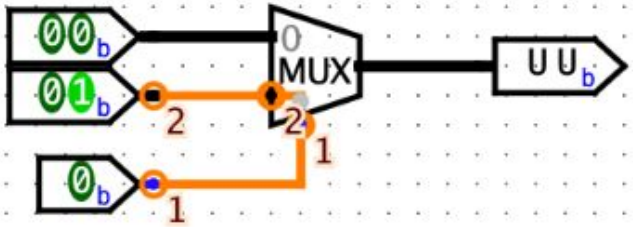
Wire colors

- Dark green: 1 bit wire has value of 0
- Bright green: 1 bit wire has value of 1
- Black: multibit wire
- Red: Wire with multiple conflicting values
- Blue: Floating wire
- Orange: different bit width at the ends of the wire



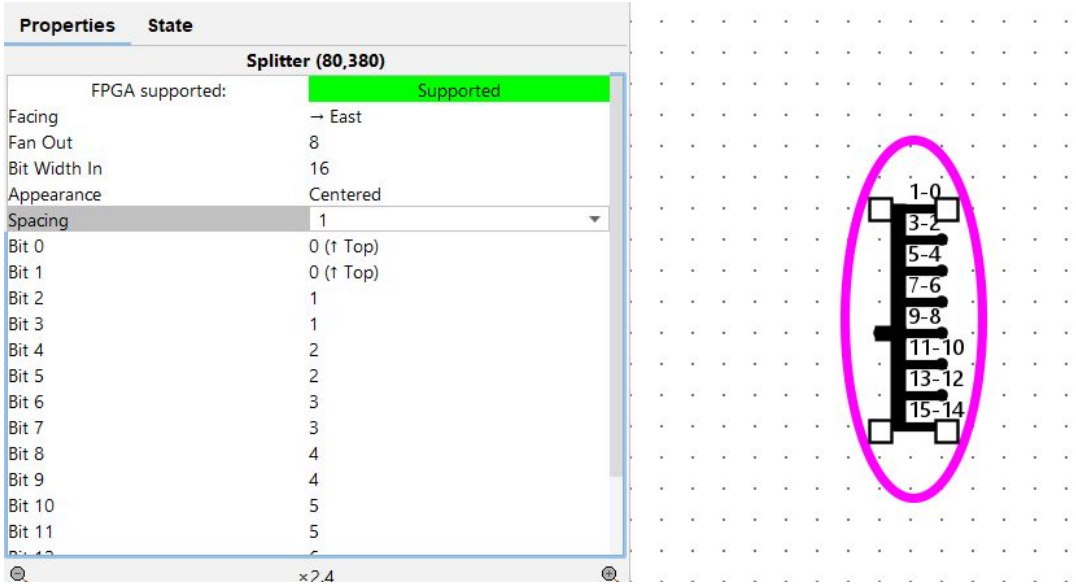






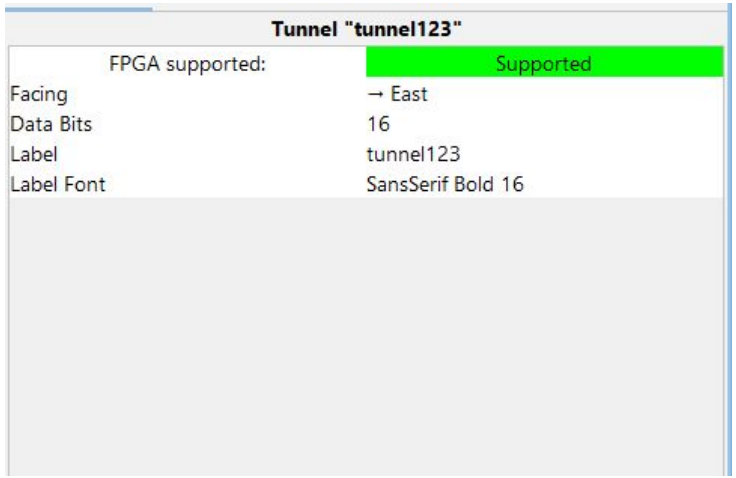
Advanced Logisim Components

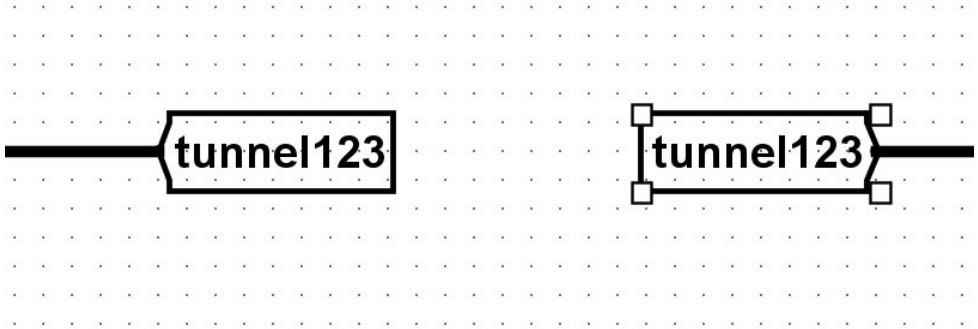
- Splitters (we can split multibit wires into individual bits or ranges of bits)



Advanced Logisim Components

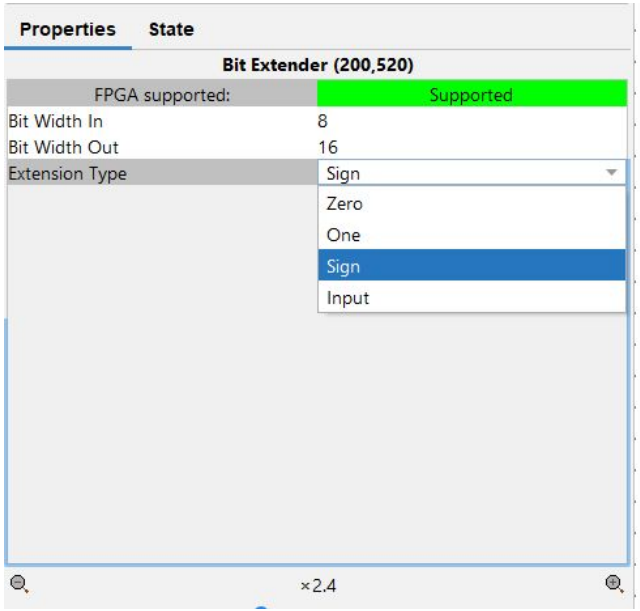
- Tunnels: We can connect two places without having wires in between





Advanced Logisim Components

- Extenders: We can change the width of wires with extenders (can be alternative to splitter)



Live Demo