Introduction to Logisim

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Overview

• Logisim overview
  – 1-Bit Full Adder
  – 2-Bit Full Adder
• Logisim Don’ts
No Controlled Buffers

- Leave wires floating
  - Works in Logisim
  - Breaks in real life
- Use a multiplexor instead

Don’t Build Your Own

- Building your own wastes time and is confusing to grade
- Almost every component customizable
  - Number of inputs
  - Bit depth

Building an 8-way Mux the hard way
Don’t Use Constants

- Constants are almost never necessary
  - Exception is supplying value to extra input
- Try to optimize away before using
  - Think truth tables

Don’t Make Trivial Sub-circuits

- Try to build logical sub-circuits
- Problems
  - All sub-circuits look the same
  - Wastes time specifying inputs and outputs of small circuits
  - Big hierarchy harder to understand
Don’t Use Invisible Splitters

- Please...
- It’s really hard to see them when we grade

Don’t Work Right to Left