

CS 61C Fall 2021

Appendix: Logisim Tips

This appendix contains some helpful Logisim tips and pitfalls to avoid.

Wiring

- If you want to know more details about each component, go to [Help](#) -> [Library Reference](#) for more information on the component and its inputs and outputs.
- Use tunnels! They will make your wiring cleaner and easier to follow, and will reduce your chances of encountering crossed wires or unexpected errors.
- Ensure you name your tunnels correctly. The labels are case sensitive!
- You can hover your cursor over an input/output on a component to get slightly more information about that input/output.

Wiring Pitfalls

- Your circuits should always fit in the provided harnesses. This means that you should not edit the provided input/output pins or add new ones. To ensure your circuit fits into the harness, you can open the harnesses in the [harnesses](#) folder and check that there are no errors.
- Don't create new [.circ](#) files. You can make additional subcircuits if you want, but they must be in existing files.

Subcircuits

- Note that if you modify a subcircuit, and another circuit file uses that subcircuit, you will need to close and re-open the outer circuit to load the changes from the subcircuit. For example, if you modify [imm-gen.circ](#), you should close and re-open [cpu.circ](#) to load your changes.
- When modifying a subcircuit, you should always open up the subcircuit file. For example, you should modify [imm-gen.circ](#), not the

`imm-gen` subcircuit in `cpu.circ`.

Signal Tips

- The clock input signal (`clk`) can be sent into subcircuits or attached directly to the clock inputs of memory units in Logisim, but should not otherwise be gated (i.e., do not invert it, do not `AND` it with anything, etc.).
- We recommend not using the `Enable` input on your MUXes. In fact, you can turn that attribute off (`Include Enable?`). We also recommend that you disable the `Three-state?` attribute (if the plexer has it).

☐ Dark Mode