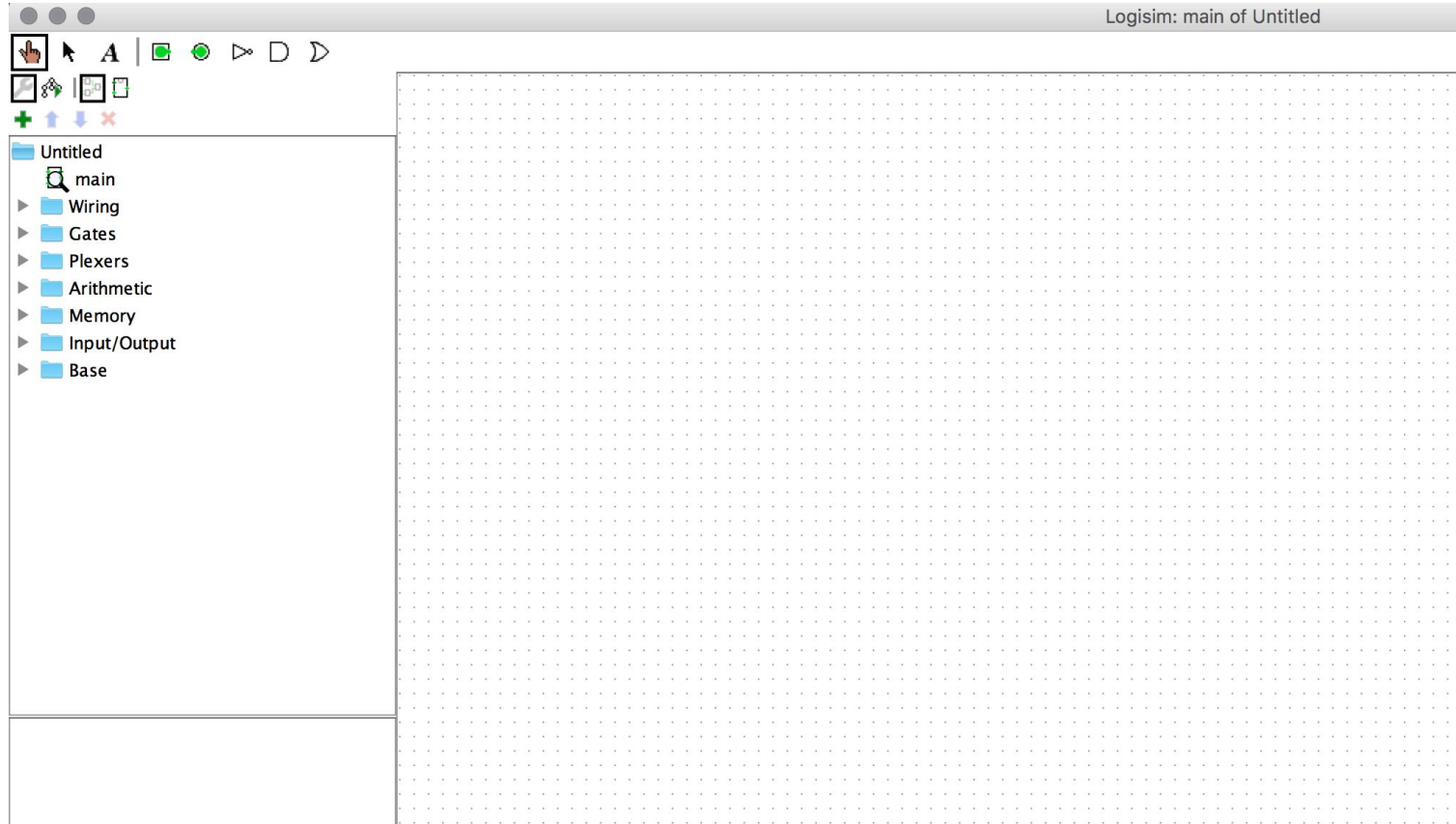


# Computer Architecture: Gates and Wires

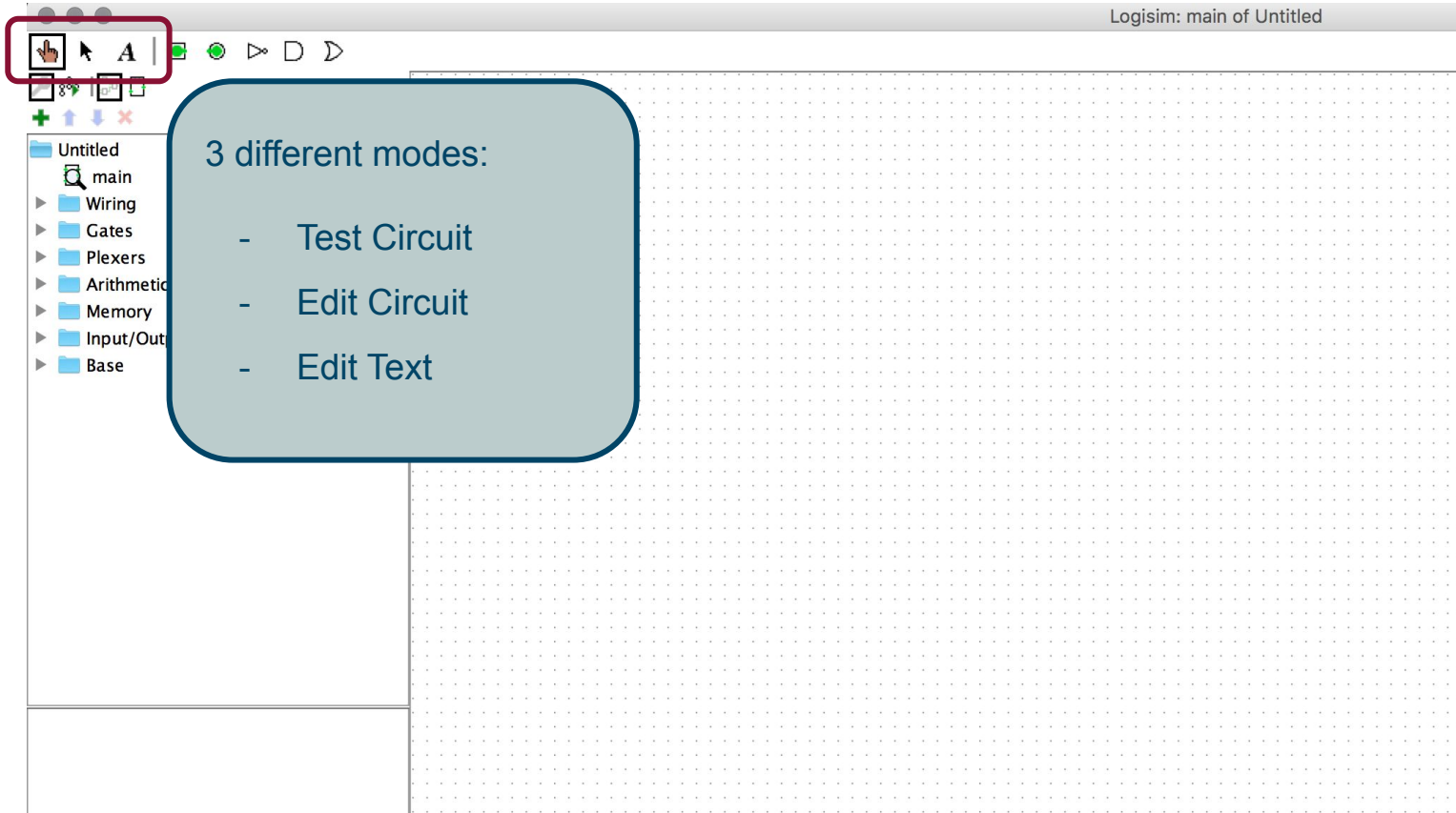
Brent van Bladel

Kasper Engelen

# Logisim



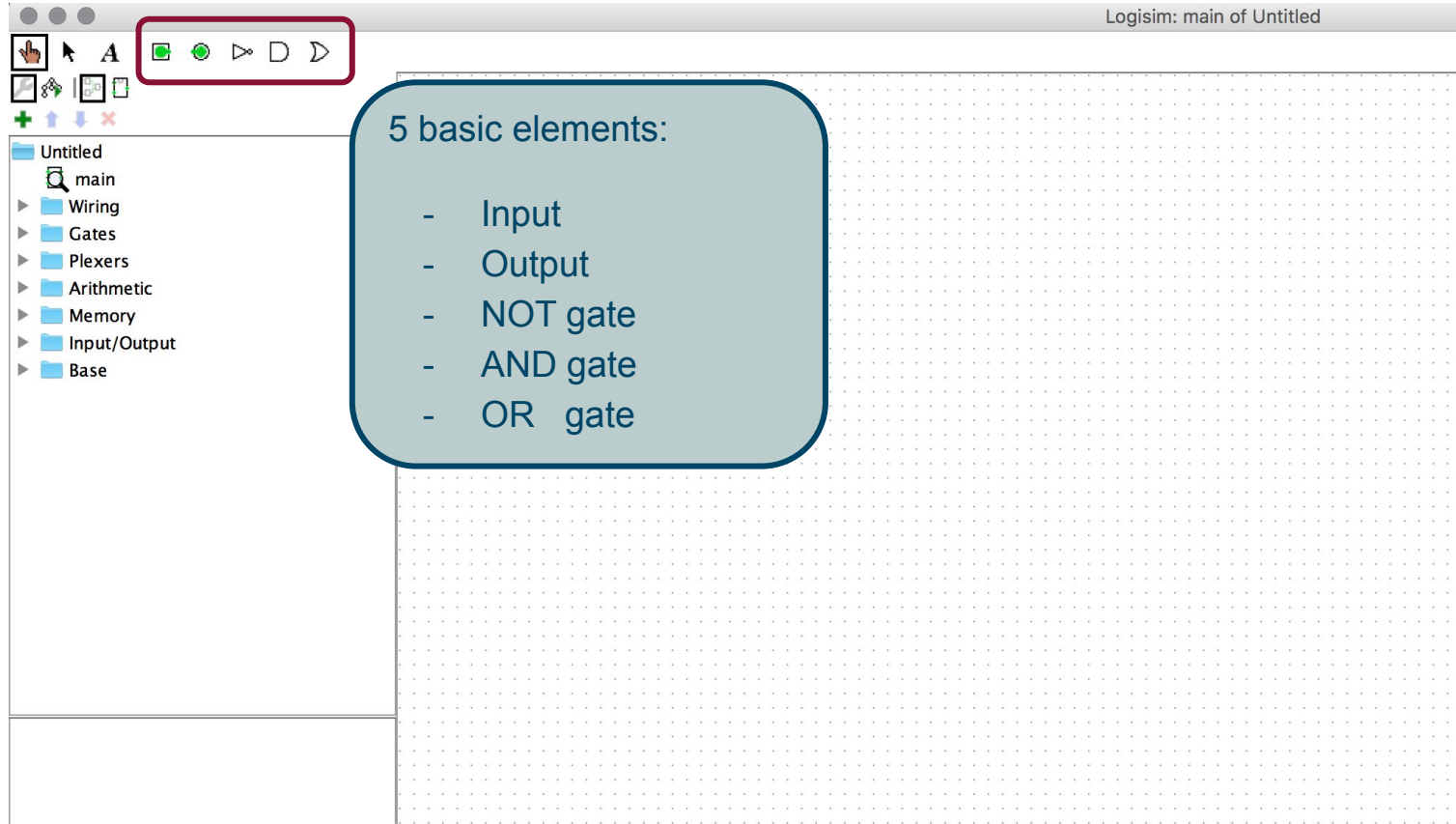
# Logisim



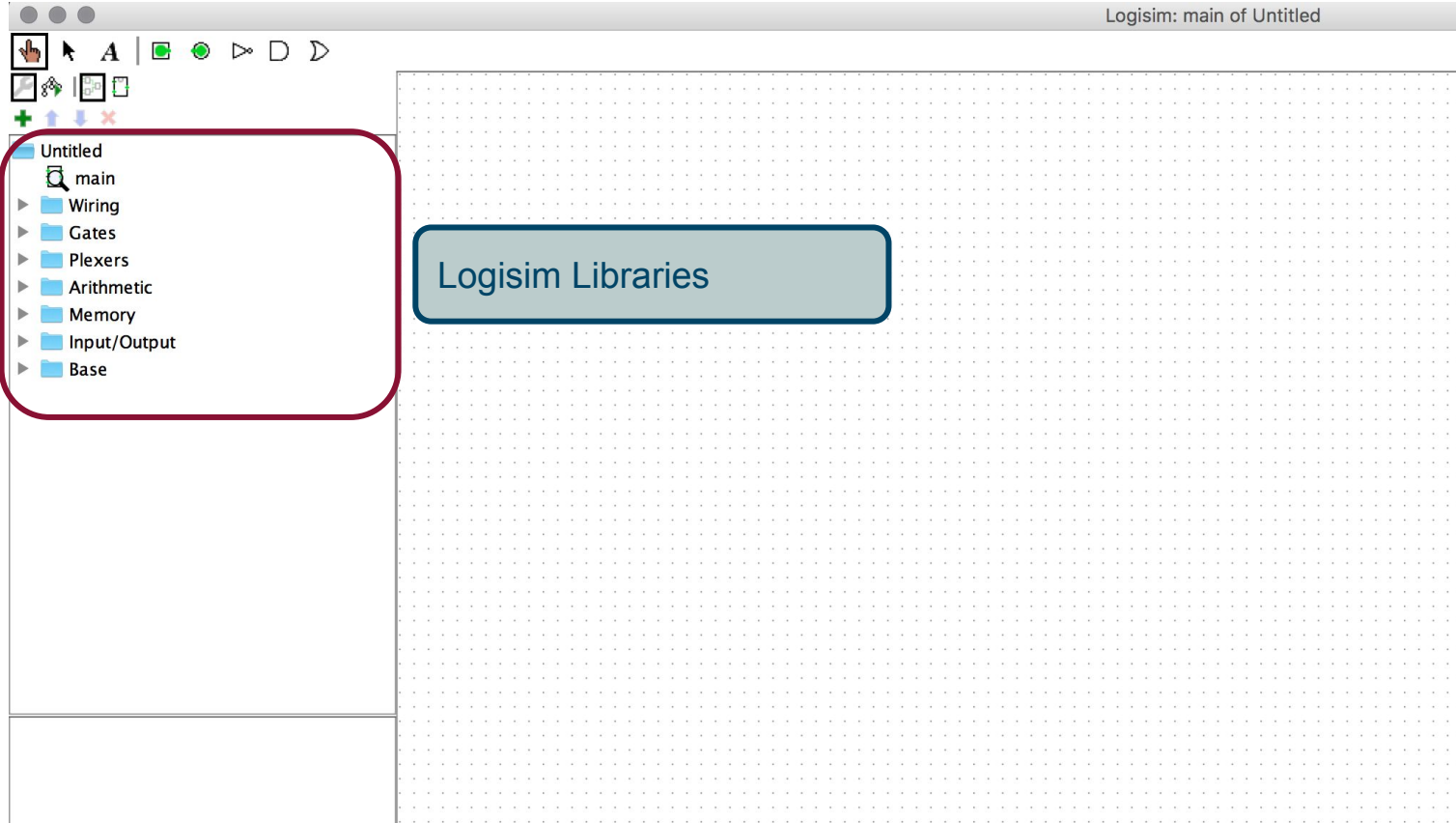
3 different modes:

- Test Circuit
- Edit Circuit
- Edit Text

# Logisim



# Logisim

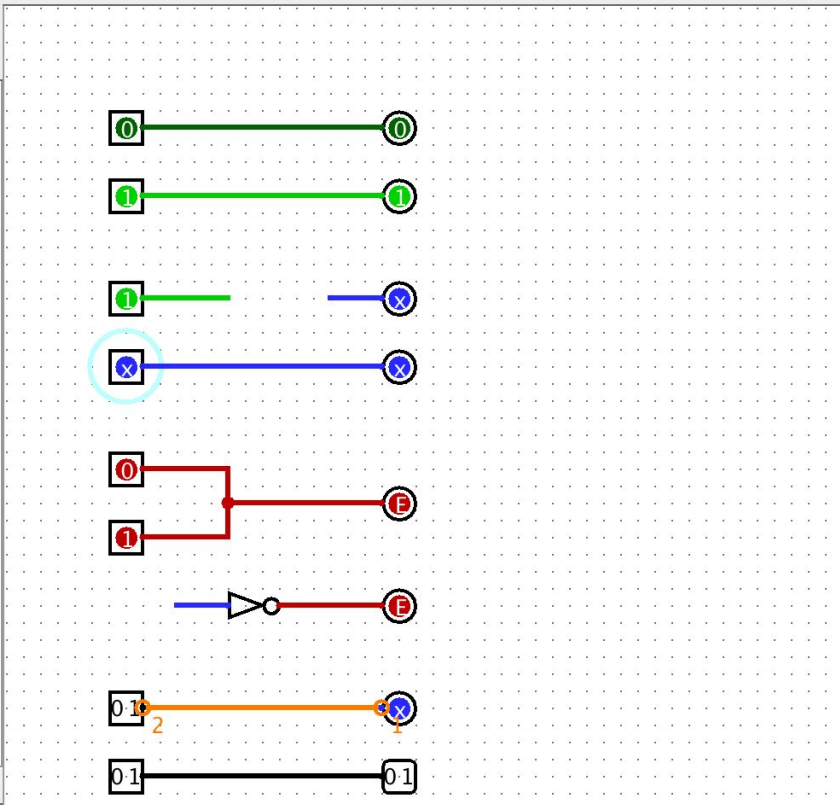


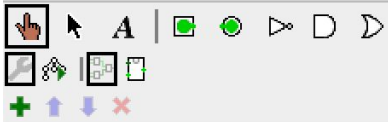


- Untitled\*
- main
- Wiring
- Gates
- Plexers
- Arithmetic
- Memory
- Input/Output
- Base

**Pin**

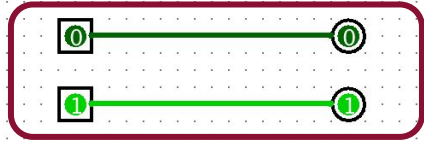
Facing	East
Output?	No
Data Bits	1
Three-state?	Yes
Pull Behavior	Unchanged
Label	



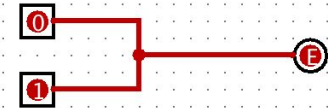


- Untitled\*
- main
- Wiring
- Gates
- Plexers
- Arithmetic
- Memory
- Input/Output
- Base

Pin	
Facing	East
Output?	No
Data Bits	1
Three-state?	Yes
Pull Behavior	Unchanged
Label	



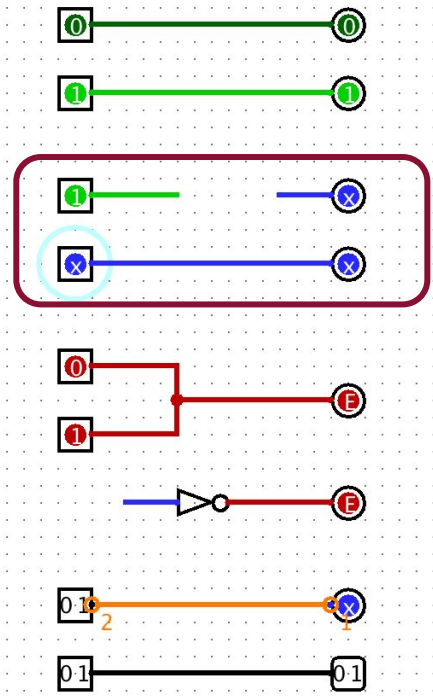
Normal connection: 0 or 1





- Untitled\*
- main
- Wiring
- Gates
- Plexers
- Arithmetic
- Memory
- Input/Output
- Base

Pin	
Facing	East
Output?	No
Data Bits	1
Three-state?	Yes
Pull Behavior	Unchanged
Label	



Broken connection

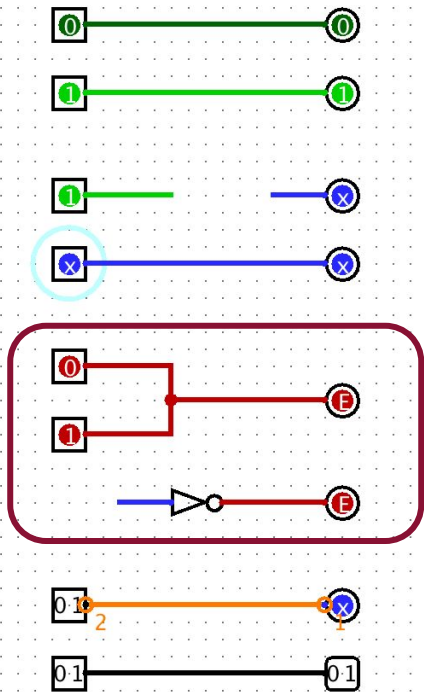






- Untitled\*
- main
- Wiring
- Gates
- Plexers
- Arithmetic
- Memory
- Input/Output
- Base

Pin	
Facing	East
Output?	No
Data Bits	1
Three-state?	Yes
Pull Behavior	Unchanged
Label	



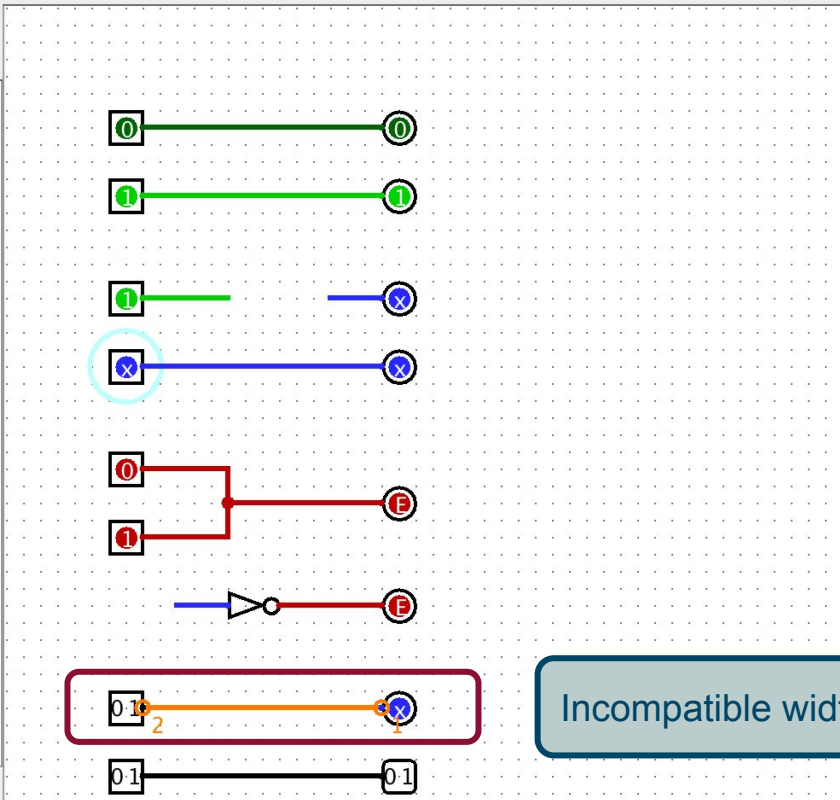
Error connection





- Untitled\*
- main
- Wiring
- Gates
- Plexers
- Arithmetic
- Memory
- Input/Output
- Base

Pin	
Facing	East
Output?	No
Data Bits	1
Three-state?	Yes
Pull Behavior	Unchanged
Label	



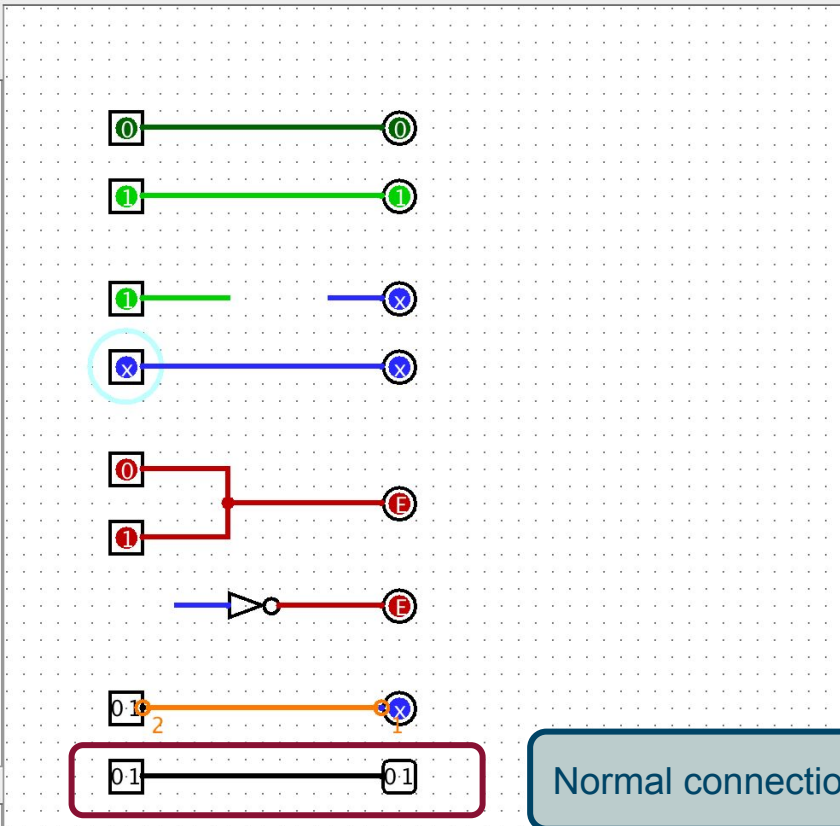
Incompatible width





- Untitled\*
- main
- Wiring
- Gates
- Plexers
- Arithmetic
- Memory
- Input/Output
- Base

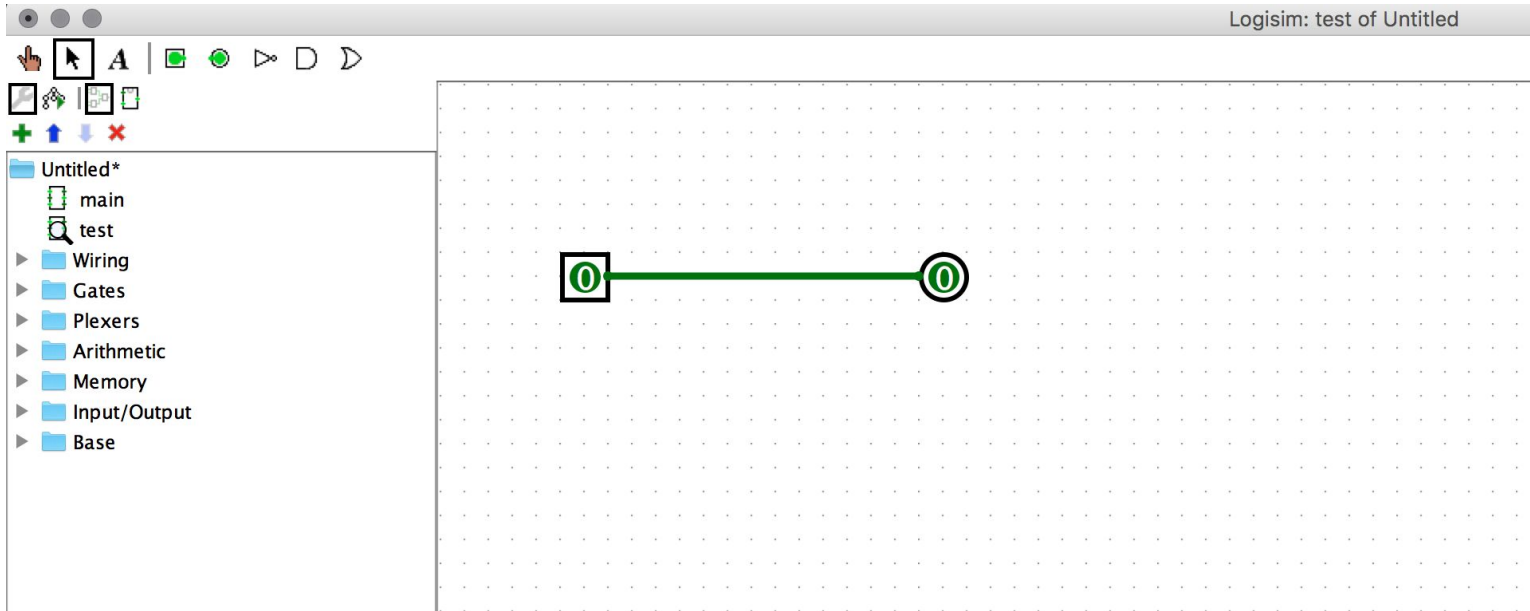
Pin	
Facing	East
Output?	No
Data Bits	1
Three-state?	Yes
Pull Behavior	Unchanged
Label	



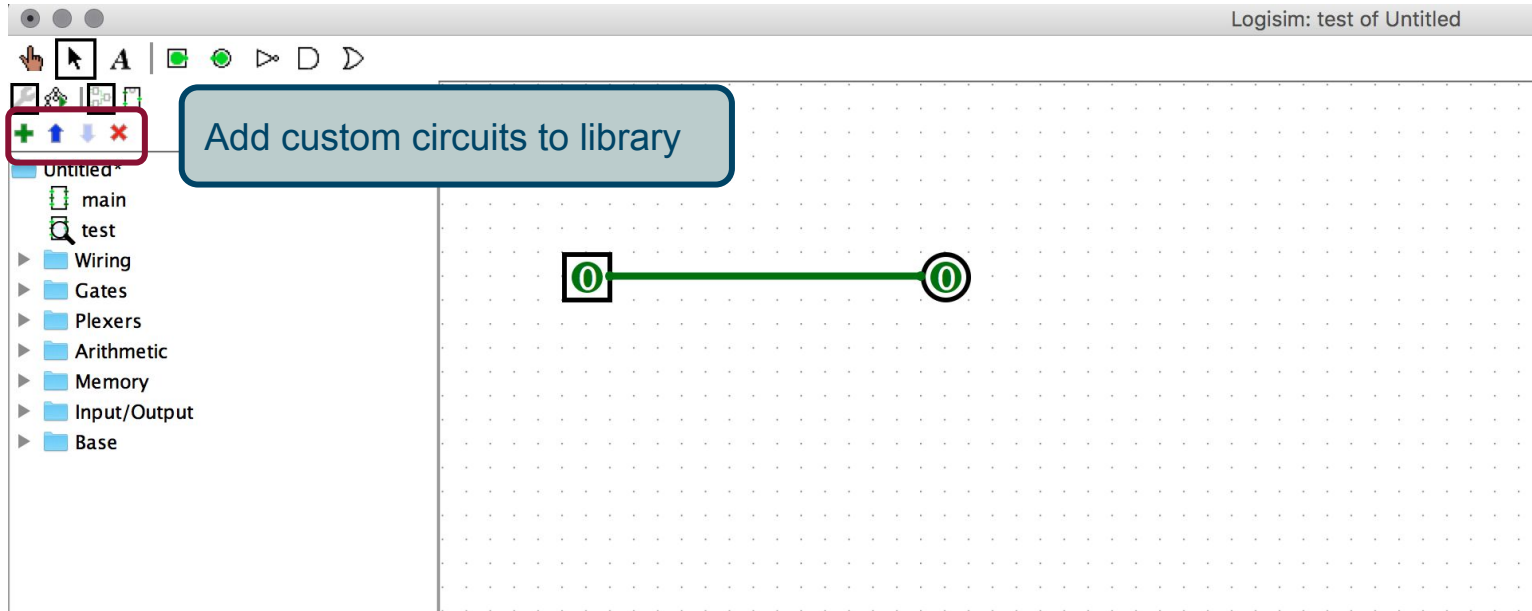
Normal connection: 2 bit



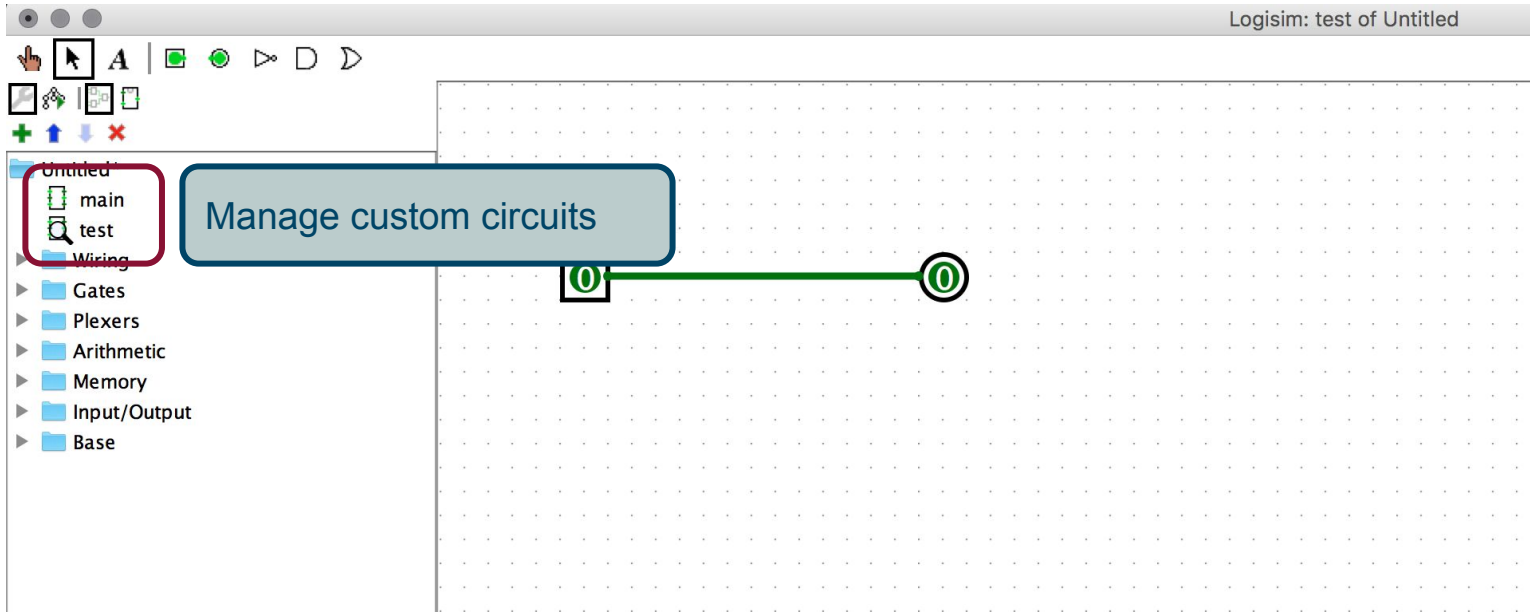
# Logisim



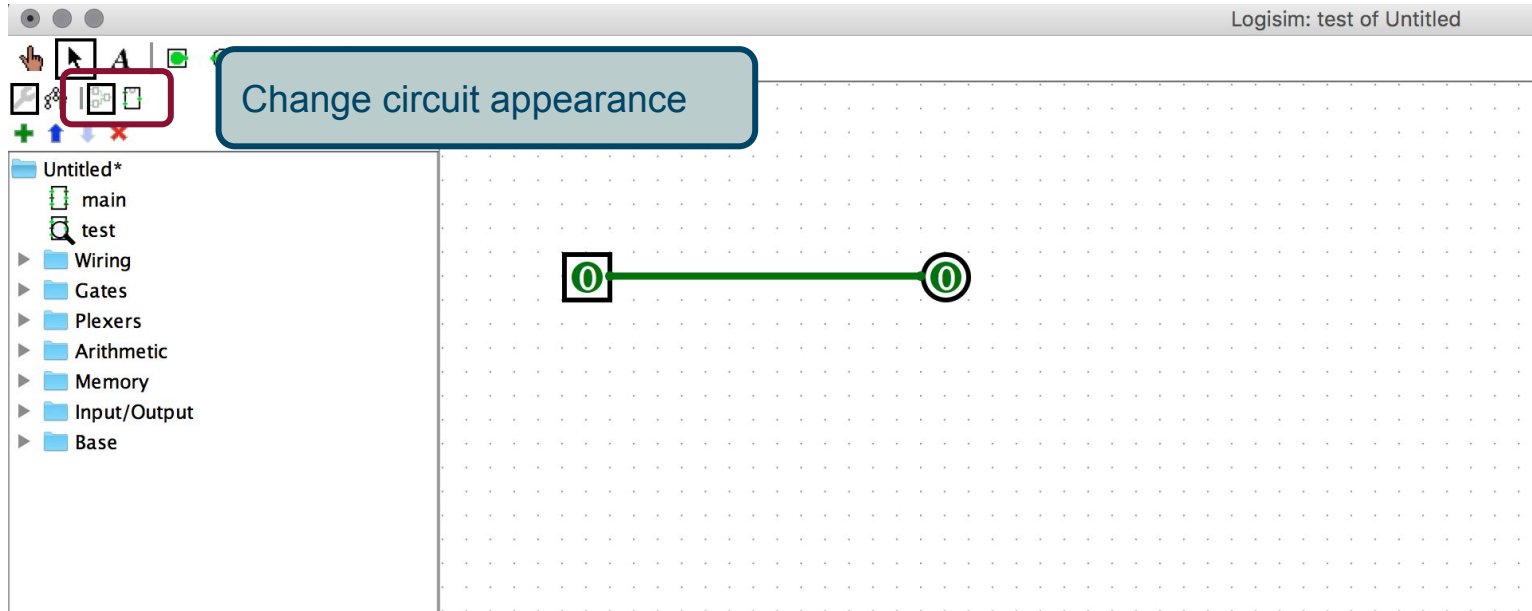
# Logisim



# Logisim



# Logisim



# Logisim

Logisim: main of Untitled

Selection Pin

Use custom circuit in other circuits to introduce abstraction layers.