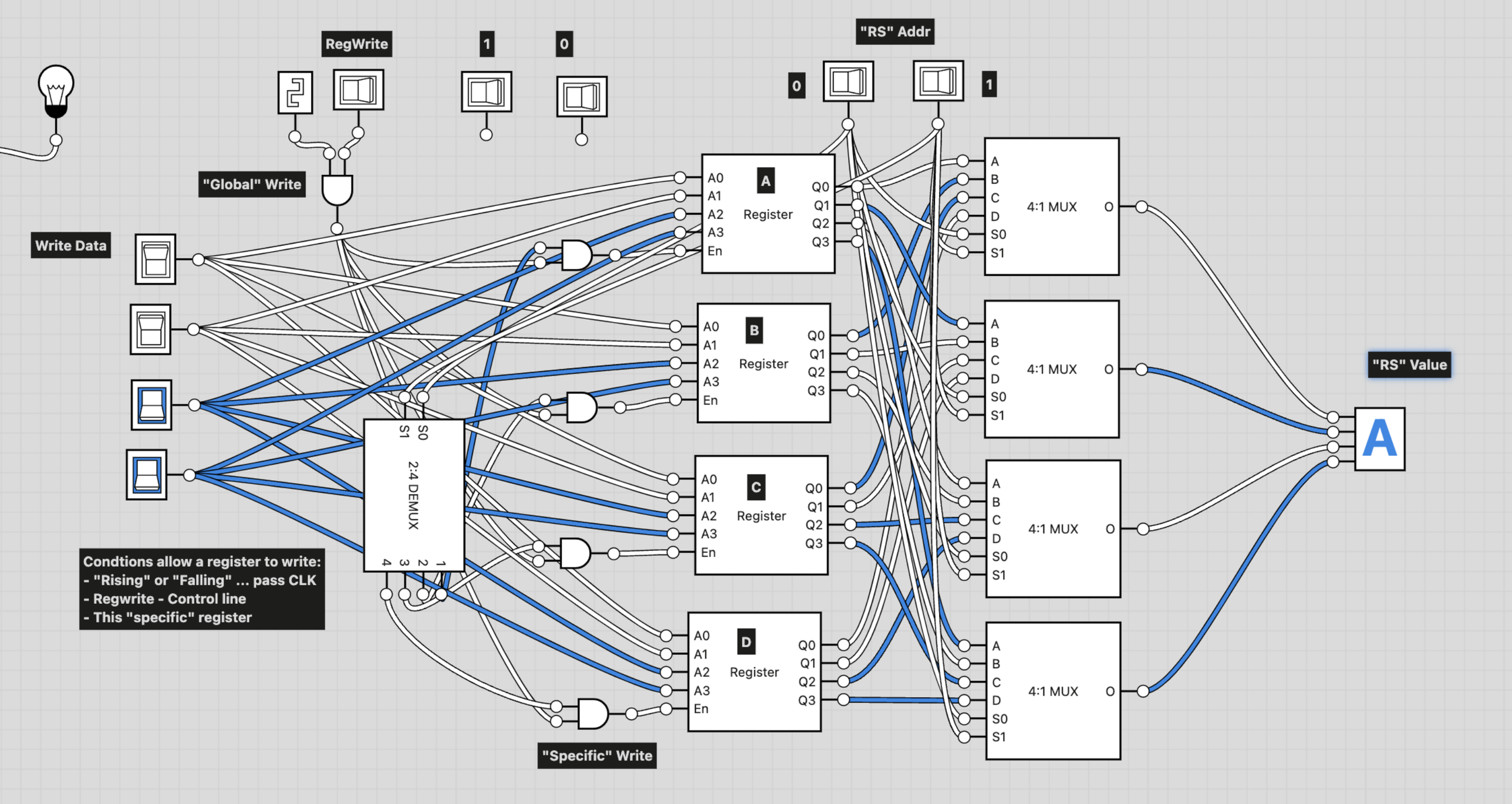
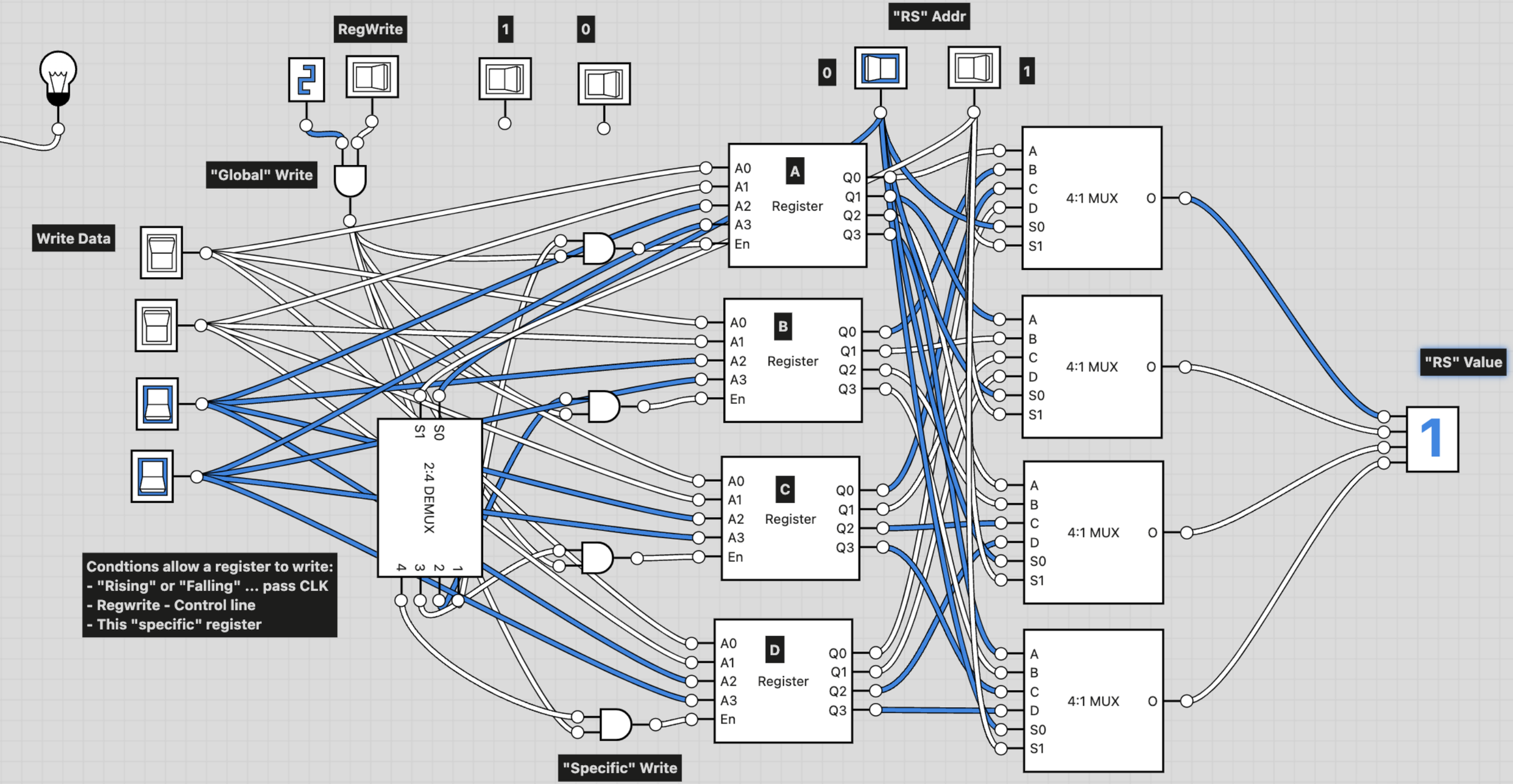
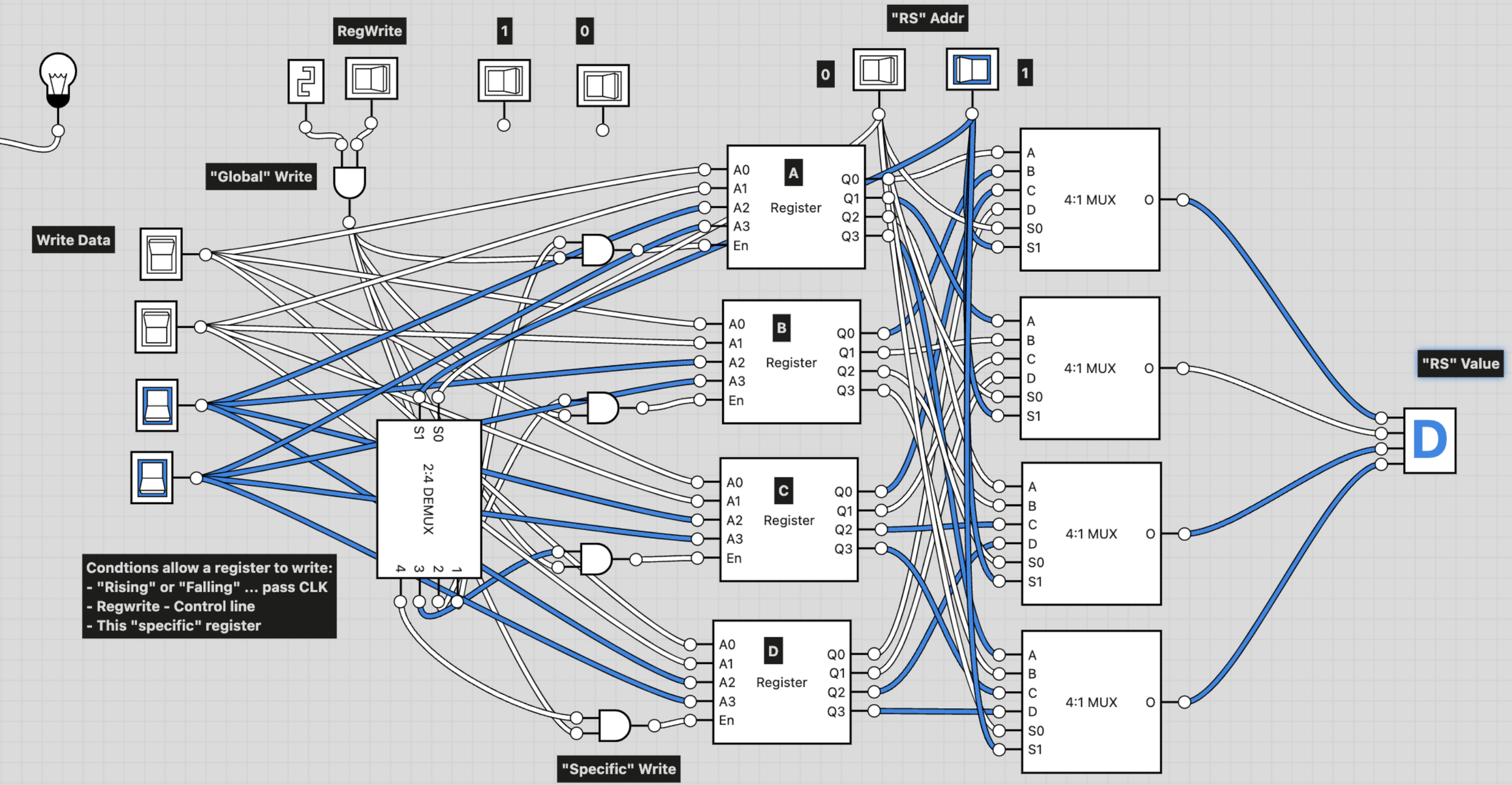
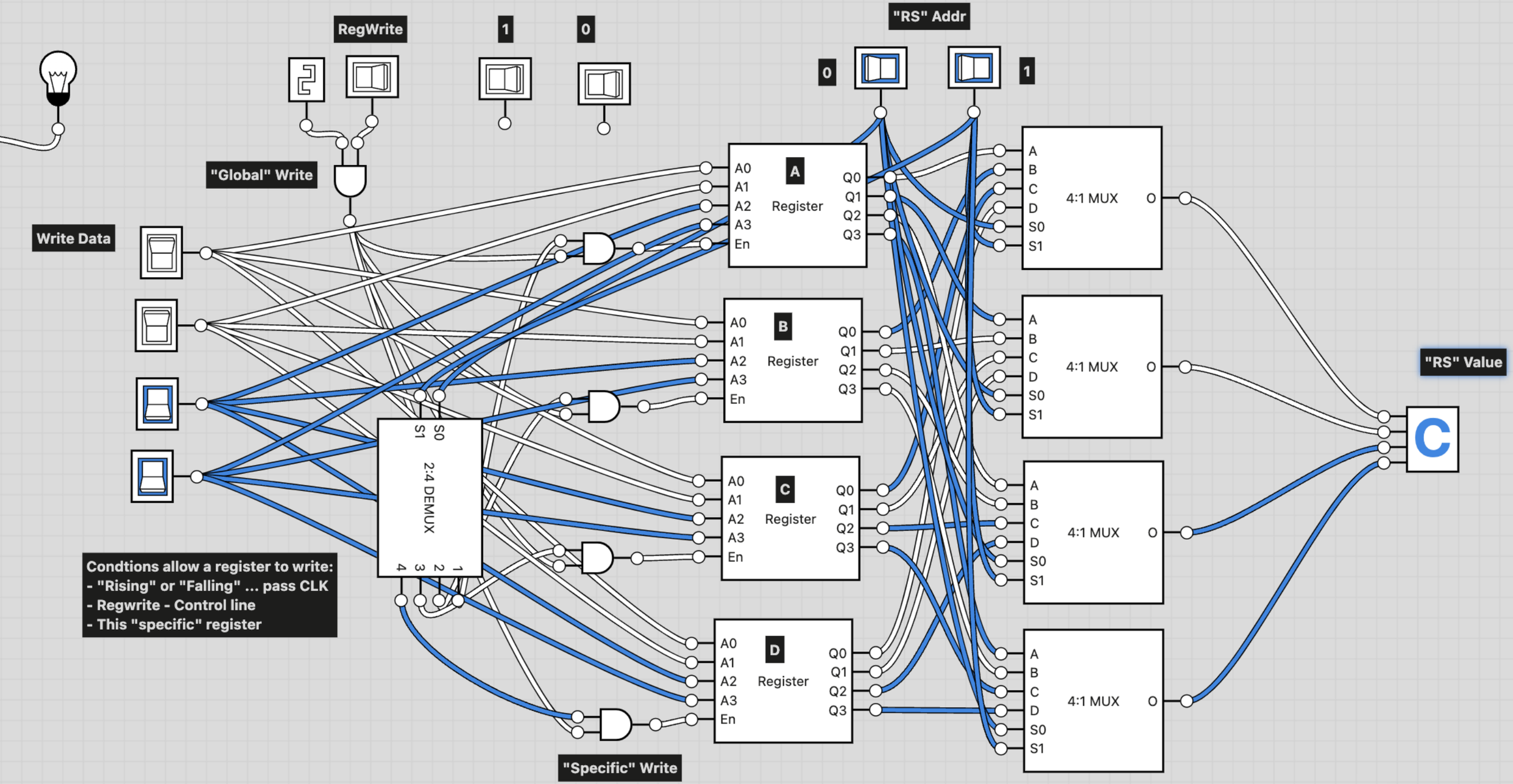
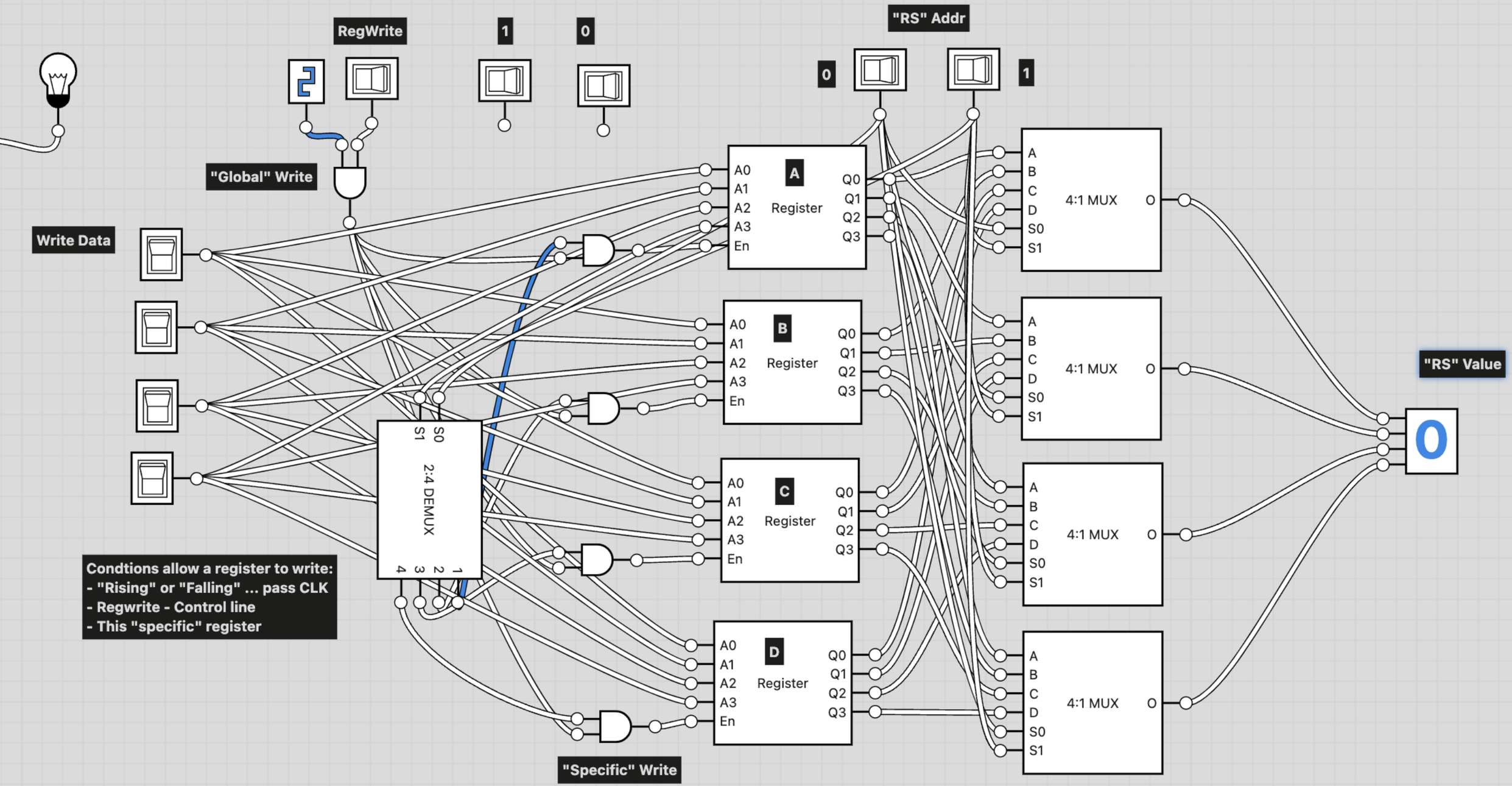
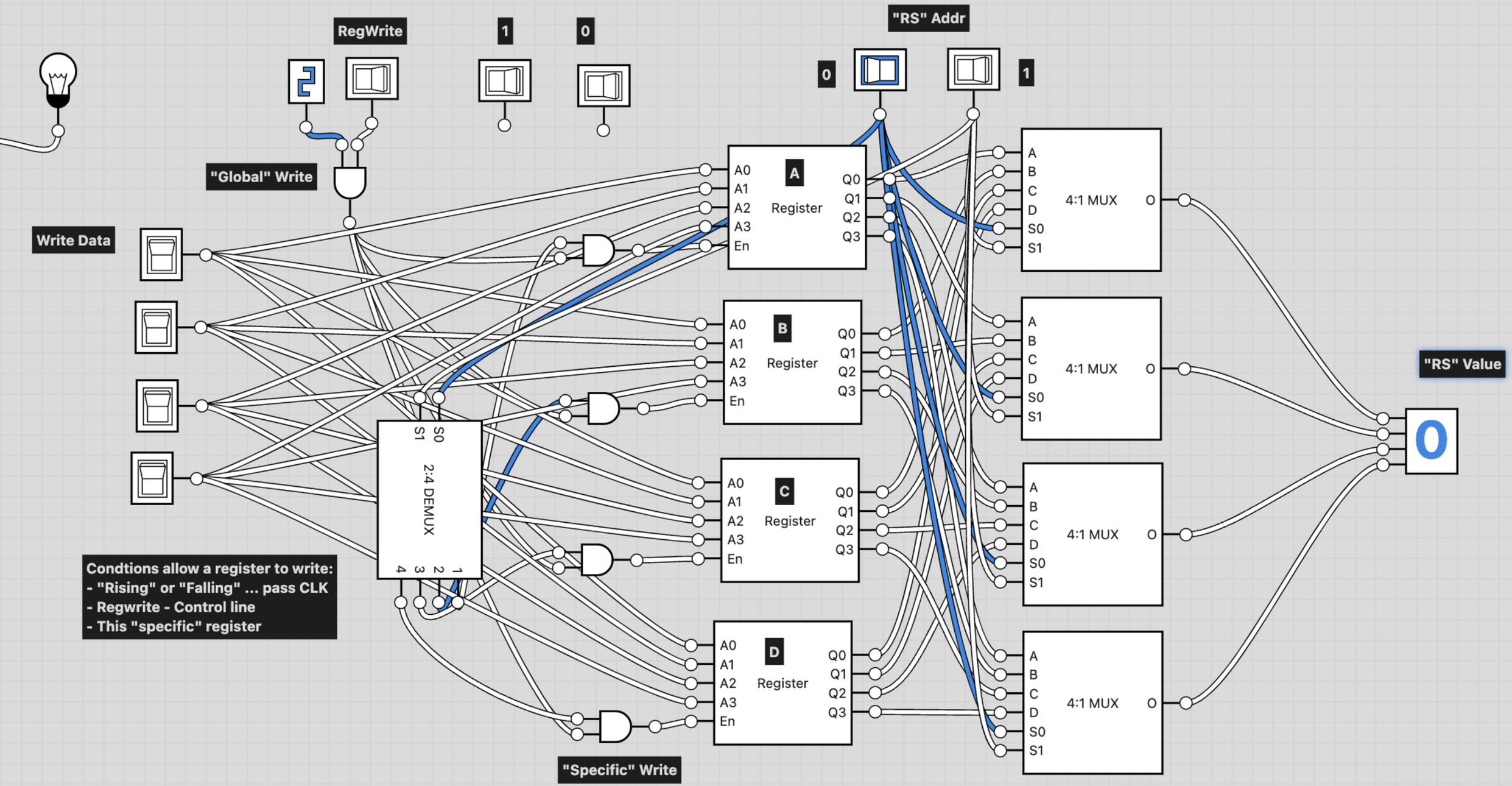

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
A
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

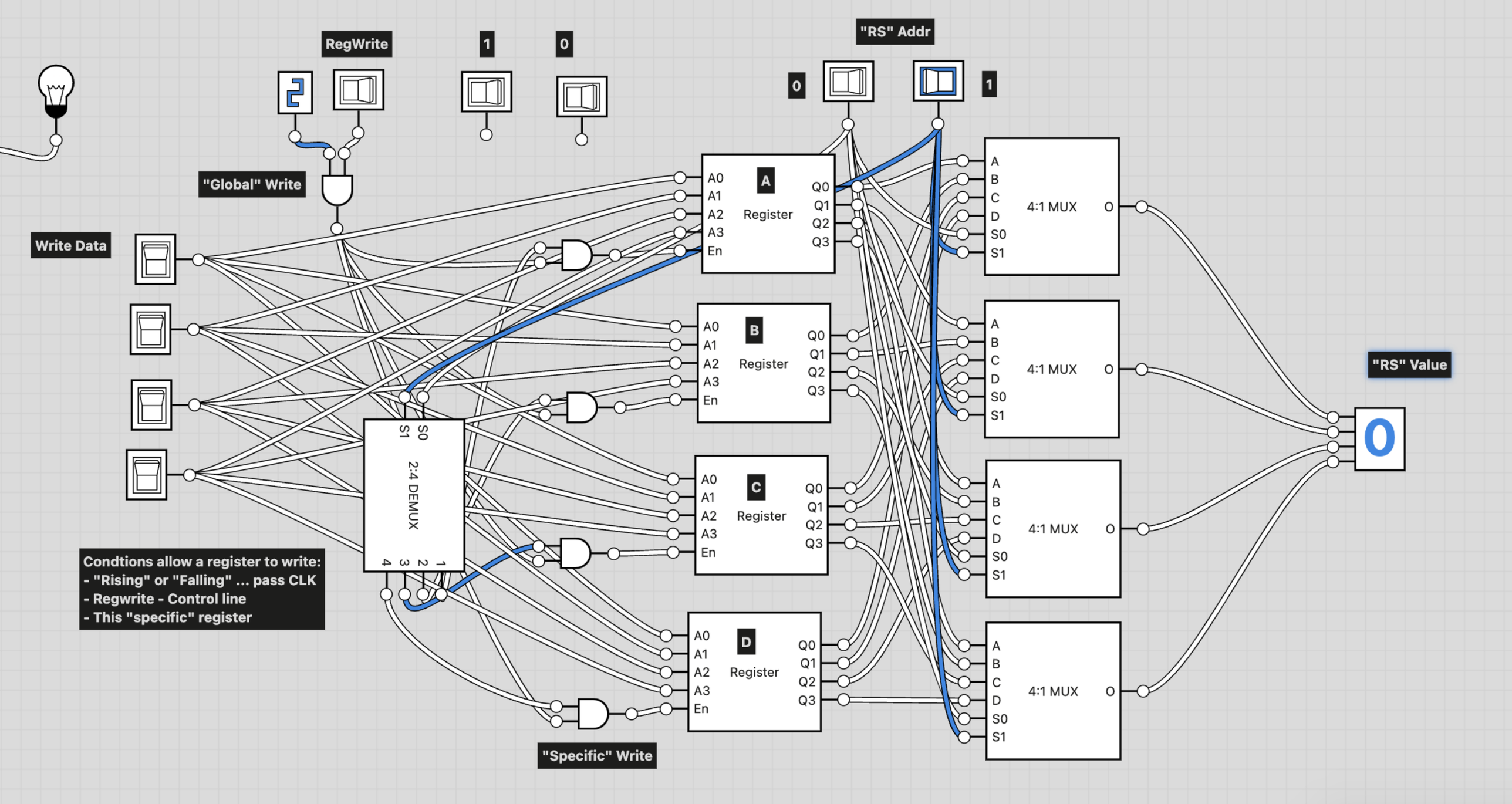

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
1
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

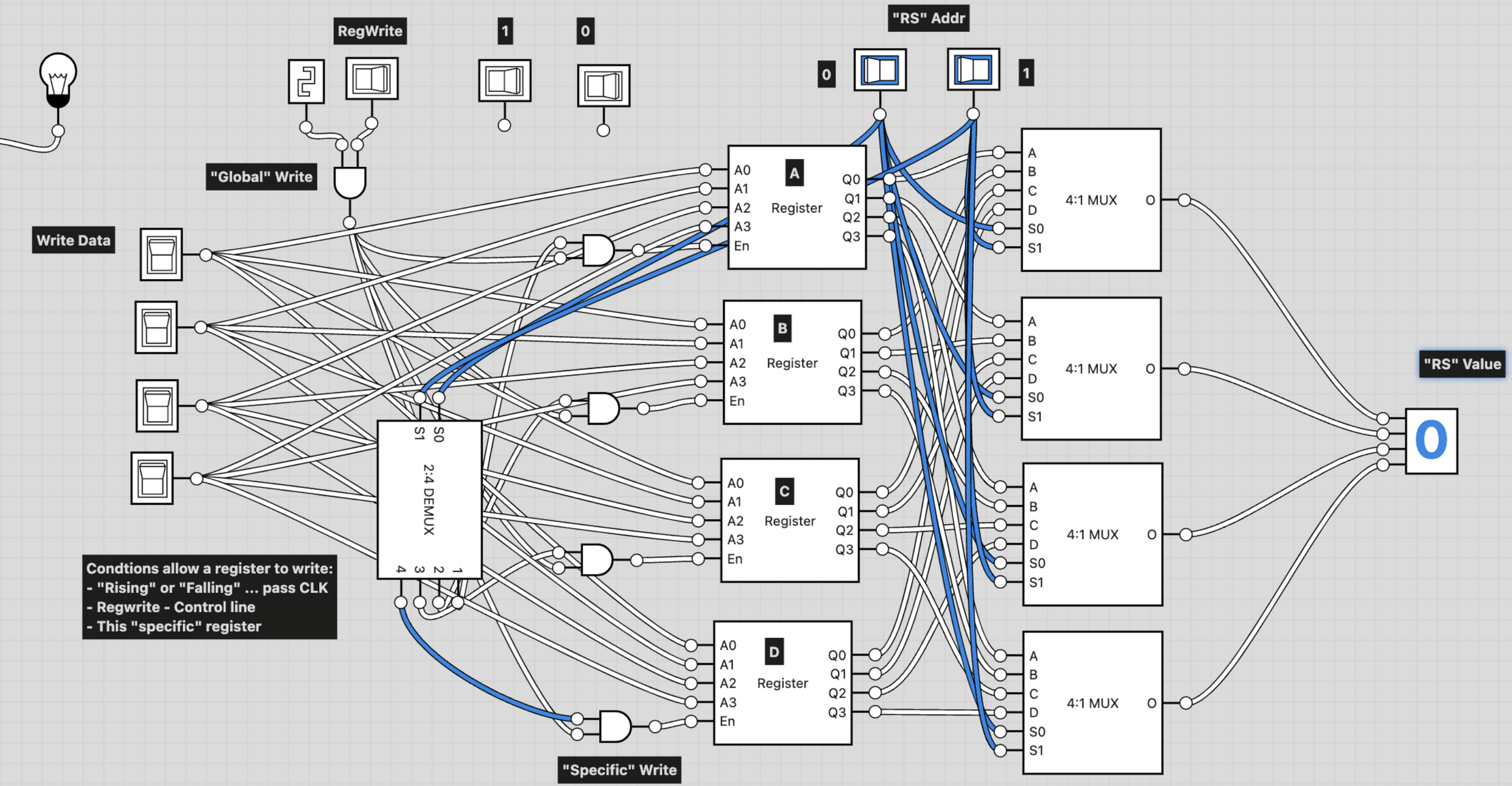

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A0
A1
A2
A3
En
A
Register
Q0
Q1
Q2
Q3
B
C
D
A
B
C
D
S0
S1
4:1 MUX
O
"RS" Value
D
S0
S1
2:4 DEMUX
1
2
3
4
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

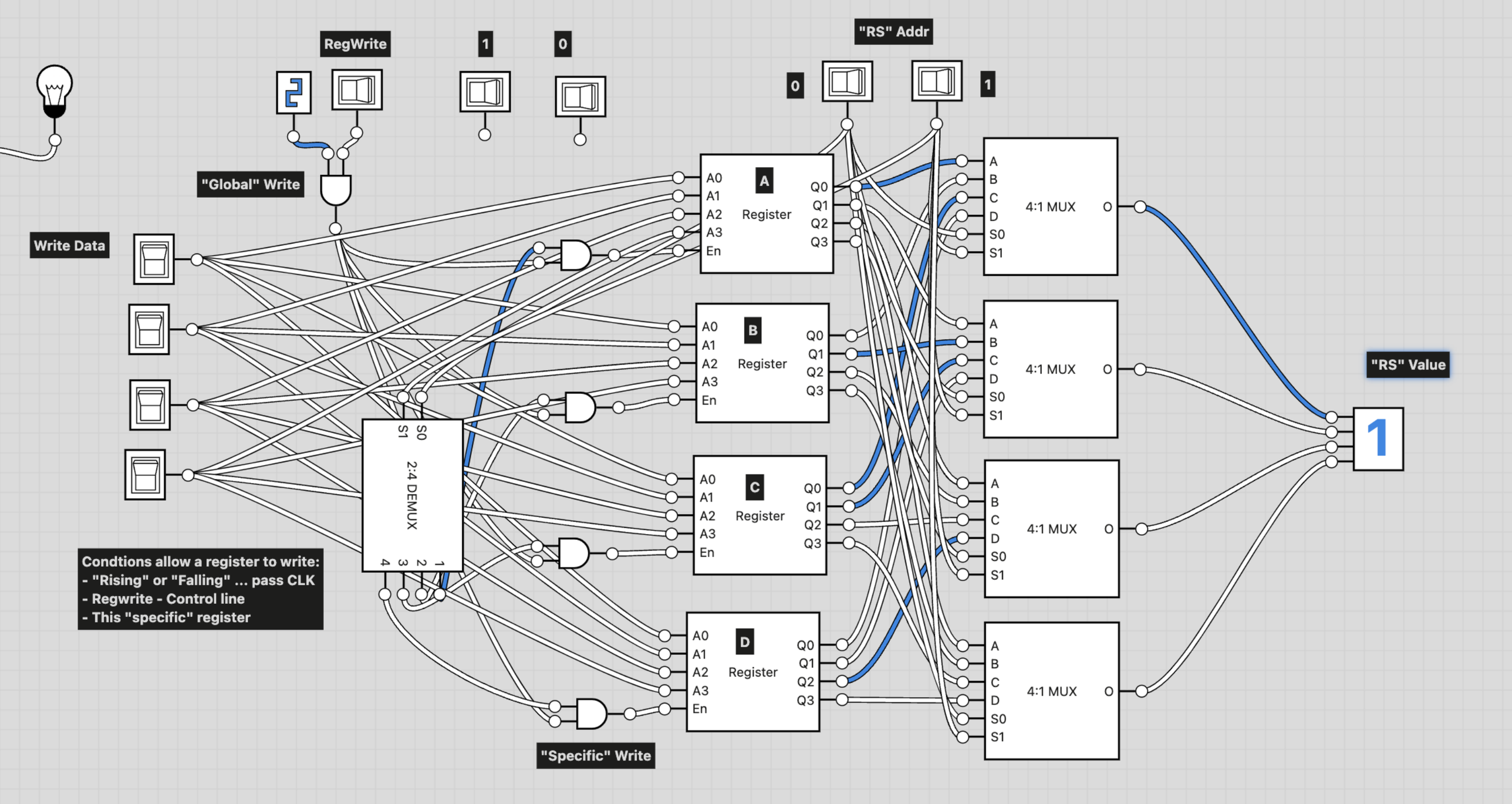

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
C
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

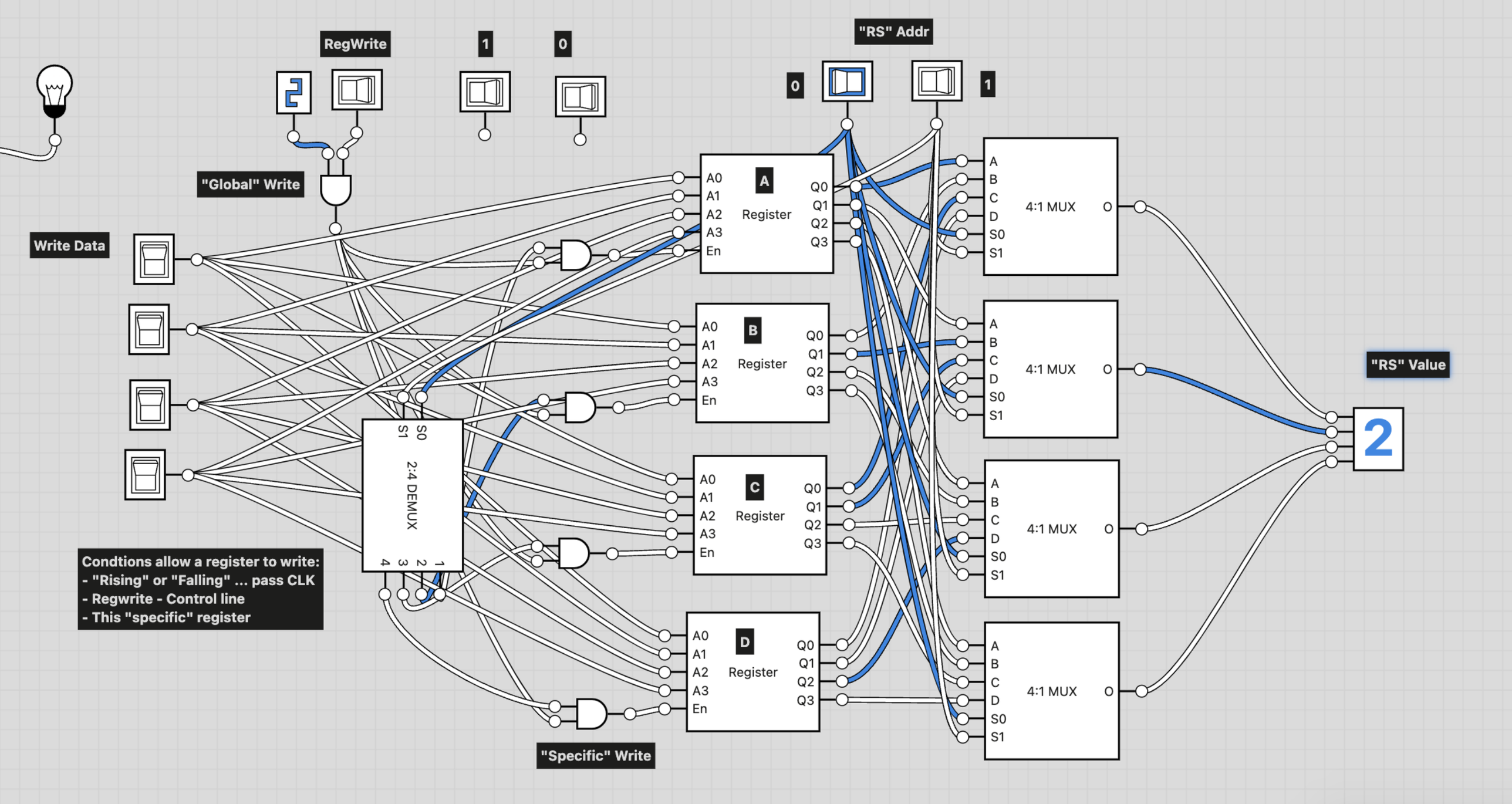

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
0
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

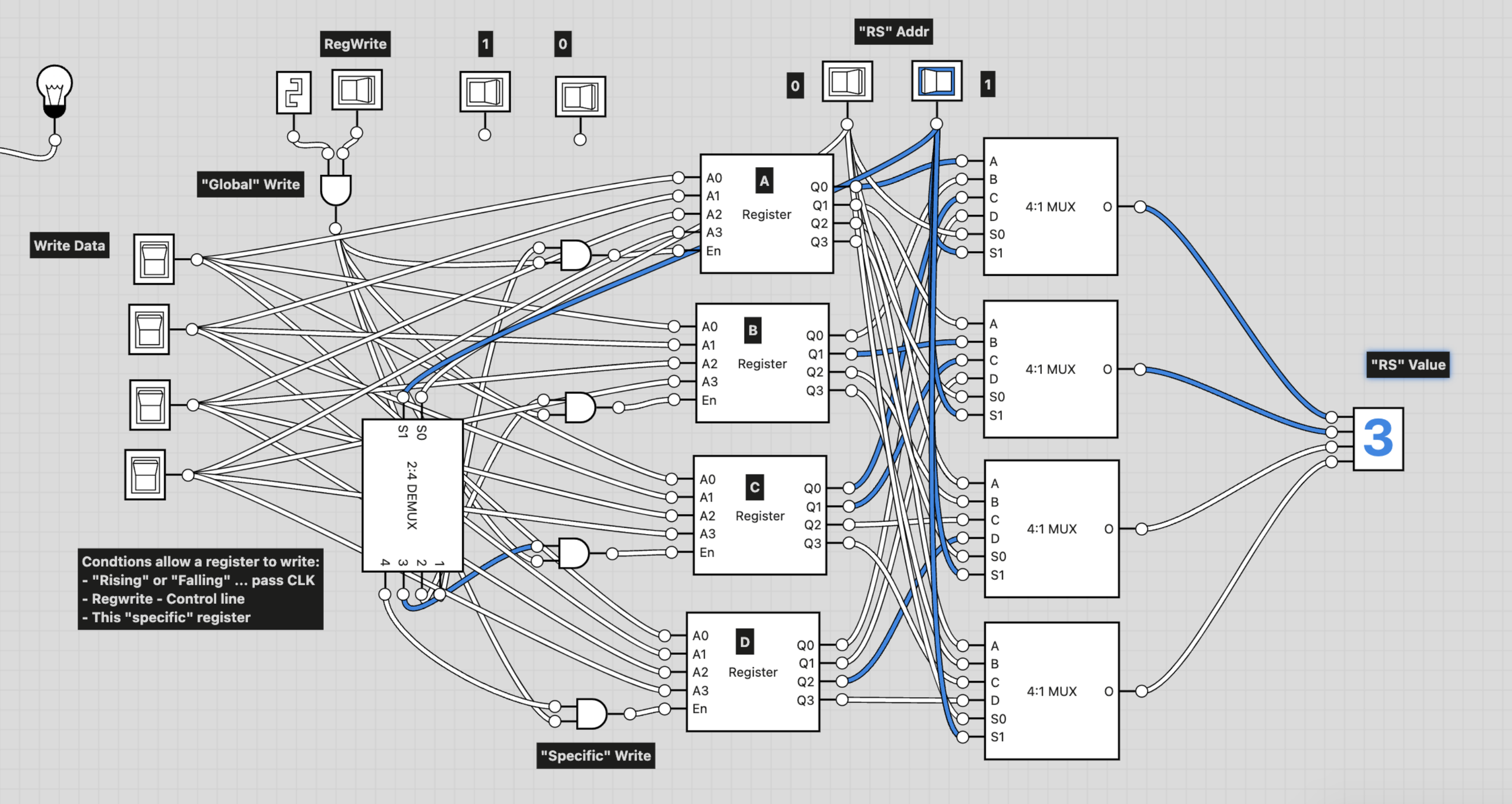

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
0
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

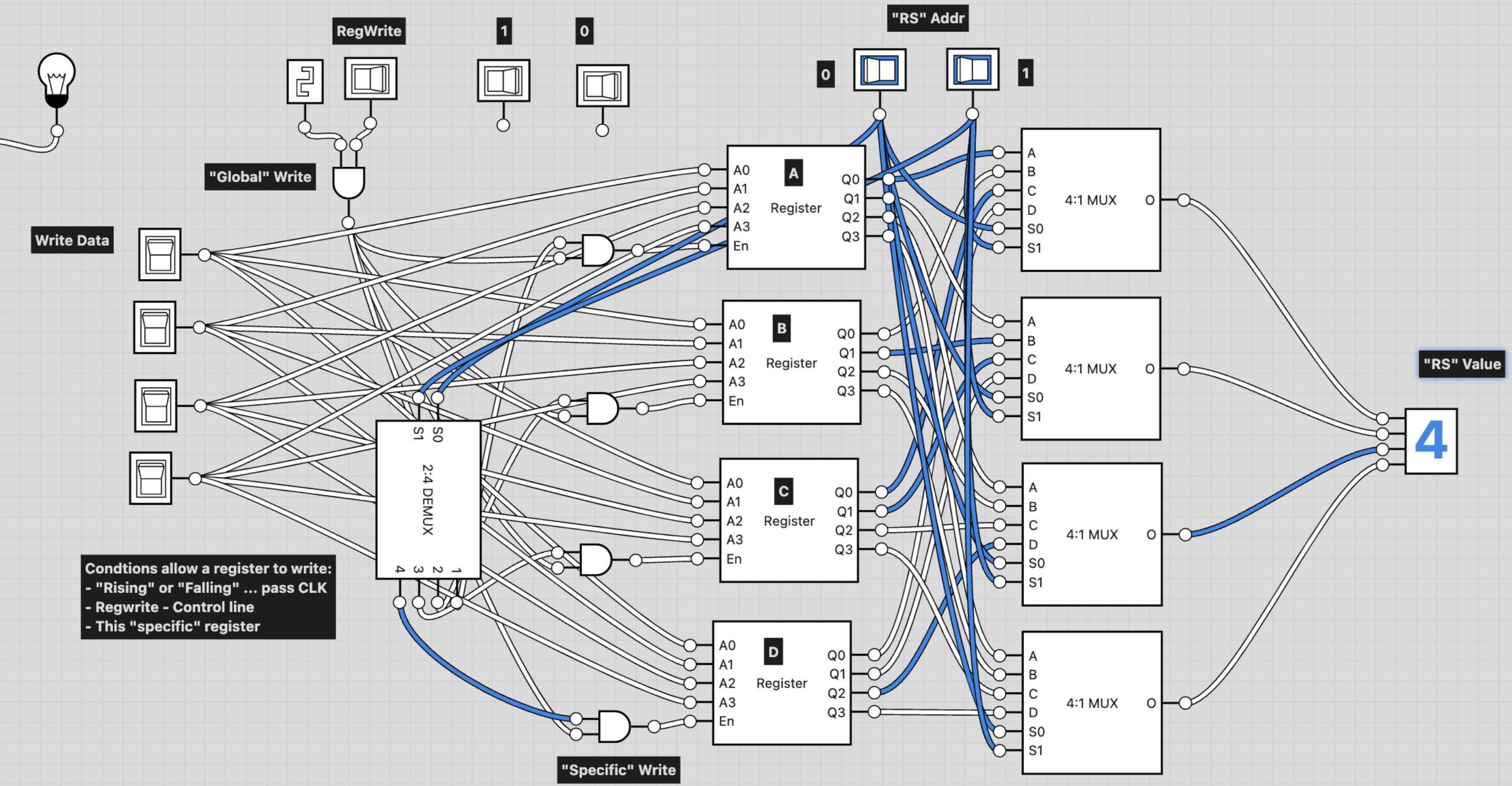

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
0
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write

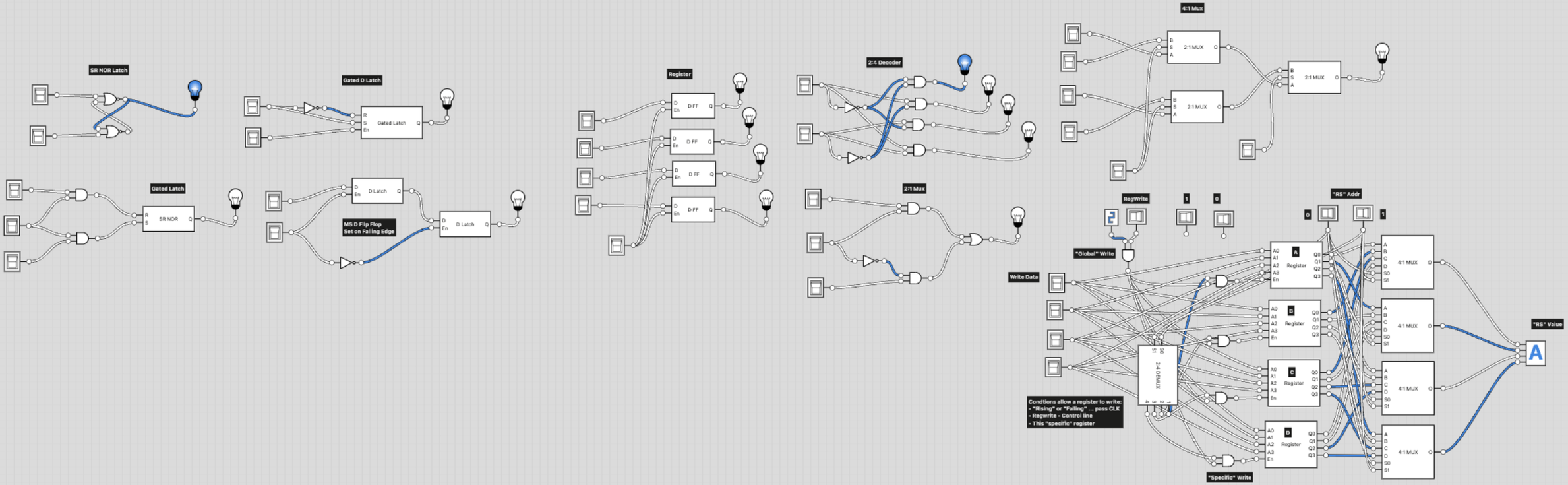

RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
0
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write


RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
1
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write


RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A0
A1
A2
A3
En
A
Register
Q0
Q1
Q2
Q3
B
C
D
S0
S1
2:4 DEMUX
1
2
3
4
4:1 MUX
A
B
C
D
O
"RS" Value
2
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write


RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A0
A1
A2
A3
En
A
Register
Q0
Q1
Q2
Q3
B
C
D
A
B
C
D
S0
S1
4:1 MUX
O
"RS" Value
3
S0
S1
2:4 DEMUX
1
2
3
4
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write


RegWrite
1
0
"RS" Addr
0
1
"Global" Write
Write Data
A
Register
B
Register
C
Register
D
Register
A0
A1
A2
A3
En
Q0
Q1
Q2
Q3
2:4 DEMUX
S0
S1
1
2
3
4
4:1 MUX
A
B
C
D
S0
S1
O
"RS" Value
4
Condtions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register
"Specific" Write


SR NOR Latch
Gated D Latch
Gated Latch
MS D Flip Flop
Set on Falling Edge
Register
2:4 Decoder
2:1 Mux
4:1 Mux
RegWrite
"Global" Write
Write Data
"RS" Addr
"RS" Value
"Specific" Write
Conditions allow a register to write:
- "Rising" or "Falling" ... pass CLK
- Regwrite - Control line
- This "specific" register