Step 1

→ 4 operations:

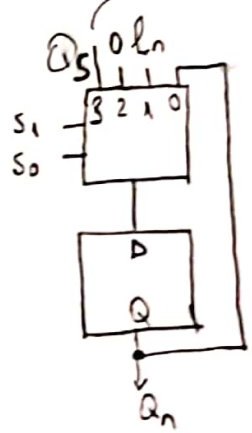
- maintain present value
- load
- clear
- swap

S_0 , use 4 x 1 mux

Step 2

S_1	S_0	
0	0	Maintain present value
0	1	load
1	0	clear
1	1	swap

Step 3



! to here we connect the other one to swap for example:

if n == 1 → s = 2

if n == 2 → s = 1

if n == 3 → s = 4

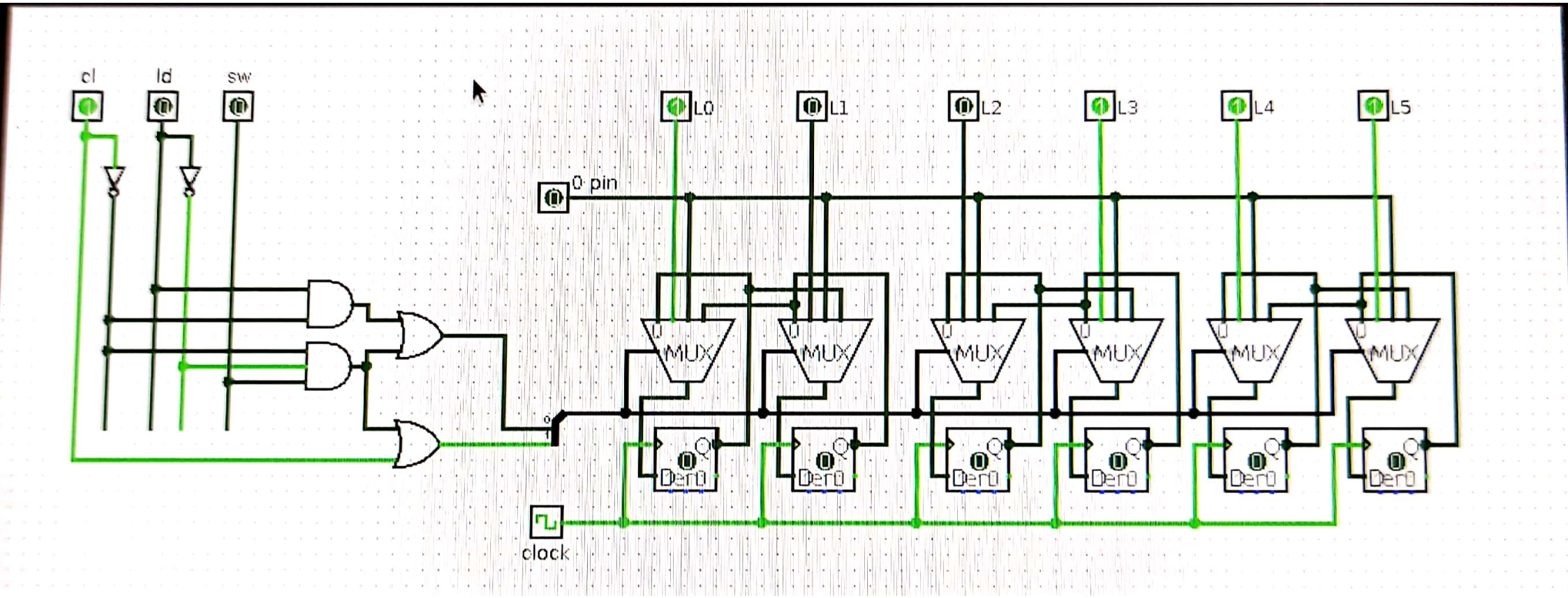
⋮

Step 4

Inputs			Outputs		Operations
cl	ld	sw	S_1	S_0	
0	0	0	0	0	maintain the present value
0	0	1	1	1	swap
0	1	x	0	1	load
1	x	x	1	0	clear

$$S_0 = cl'(ld' \cdot sw + ld)$$

$$S_1 = cl' \cdot ld' \cdot sw + cl$$


cl
ld
sw
L0
L1
L2
L3
L4
L5
0 pin
MUX
Der0
clock