

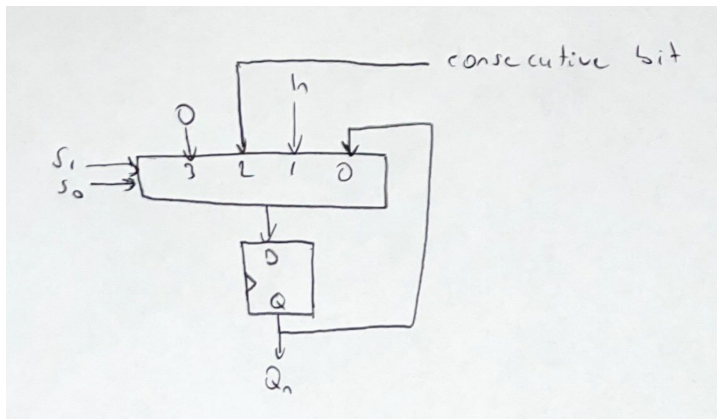
Step 1

4 operations: maintain, load, swap, clear
 → 4x1 mux

Step 2

s1	s0	Operation
0	0	Maintain
0	1	Load
1	0	Swap
1	1	Clear

Step 3



Step 4

inputs			outputs		operations
cl	ld	sw	s1	s0	
0	0	0	0	0	maintain
0	0	1	1	0	swap
0	1	x	0	1	load
1	x	x	1	1	clear

$$s_1 = cl + \neg cl \cdot \neg ld \cdot sw$$

$$s_0 = cl + \neg cl \cdot ld$$

Logic Circuit

