

1) Step 1:

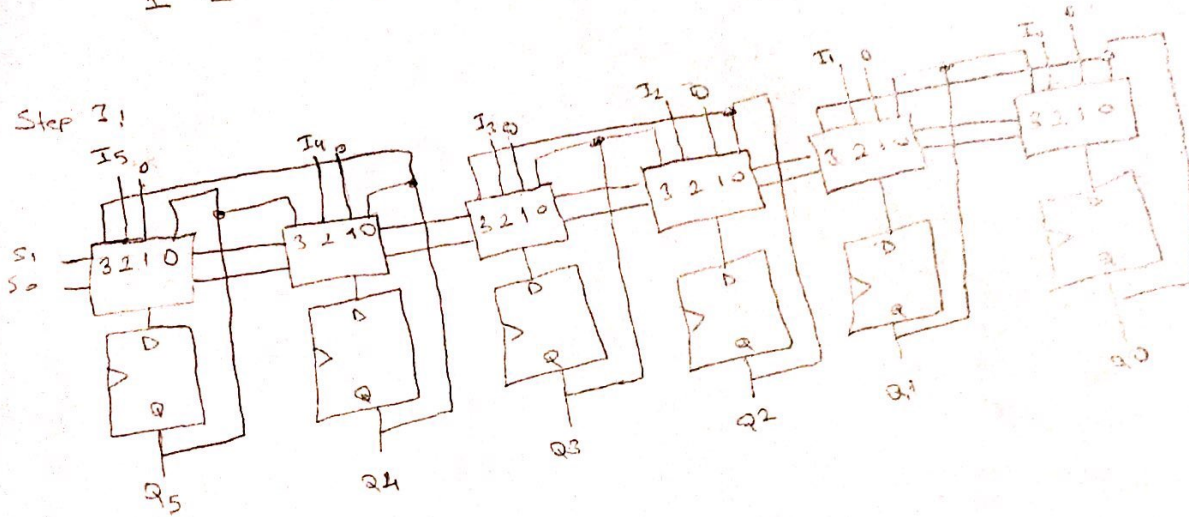
3 operations load, swap, clear,
maintain present value
→ Use 4x1 mux

Er. ALVIN
J. J.

Step 2:

S ₁	S ₀	Operation
0	0	Maintain present value
0	1	Clear
1	0	Load
1	1	Swap

Step 3:



Step 4:

clr, load, swp

clr	load	swp	S ₁	S ₀	Operation
0	0	0	0	0	Maintain present value
0	0	1	1	1	Swap
0	1	X	1	0	Load
1	X	X	0	1	Clear

$$S_1 = \text{clr}' \text{load}' \text{swp} + \text{clr}' \text{load}$$

$$S_0 = \text{clr}' \text{load}' \text{swp} + \text{clr}$$

