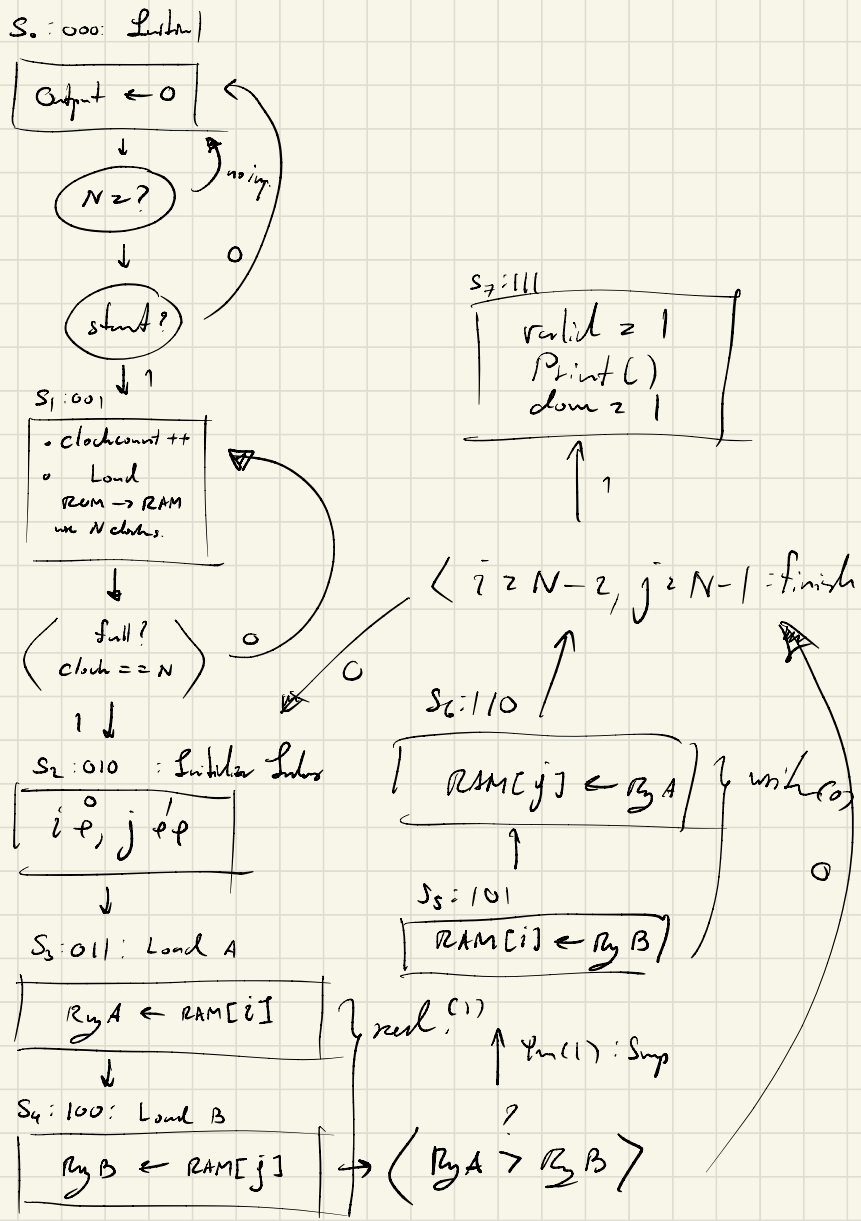
Bubble Sort (?)

Input: N, reset, start, clock
Output: displayout, valid, done, clockcount



Counting Sort

S_0 Initialize

Input → 0

Output ← CLR.

⟨ start ? ⟩ 0

S_1 : Read ROM : 2 5 3 0 2 3 0 3 , cnt[num]++

find Max. ($2^8 = 256$) : max = 5

S_2 : Create Count Arr (RAM), length max+1 : 6 ($2^{8+1} = 257$ ($\ll 2^8$))

Data:	0	1	2	3	4	5
Count:	2	0	2	3	0	1

S_3 : cumulative Sum

Data:	0	1	2	3	4	5
Count:	2	0	2	3	0	1
read clk	↓		↓	↓		
Sum:	0	2	2	4	7	7	8
write clk	↓		↓	↓		
Count:	2		2	4		

S_4 : Create Output Arr (RAM)

traverse, Print First Letter

S_5 : Fill

S_7 : Done

valid ← 1

Print ();

done ← 1

⟨ Rest = 1 ⟩