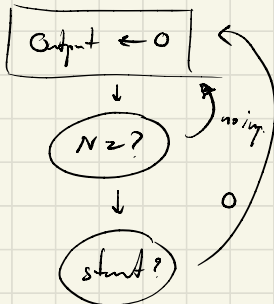


Maximal Sort  
(?)

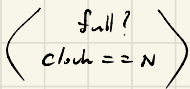
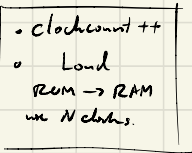
Input:  $N$ ,  $read$ ,  $start$ ,  $clock$

Output:  $display$ ,  $valid$ ,  $done$ ,  $clockcount$

S: 000: Start

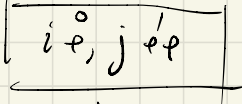


S1: 001

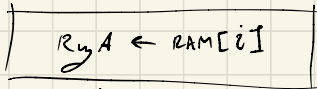


1 ↓

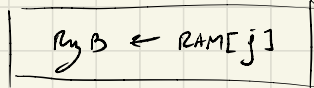
S2: 010: Sublabel Sub



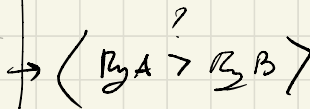
S3: 011: Load A



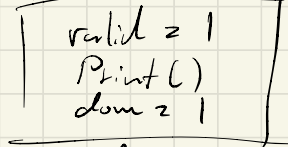
S4: 100: Load B



} read<sup>(1)</sup> ↑  $\Psi_m(1)$ : Sup



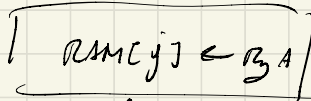
S7: 111



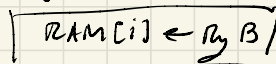
↑ 1

<  $i \geq N-2, j \geq N-1$  = finish >

S6: 110



S5: 101



} write<sup>(0)</sup>

0

Contig Sort.

(S<sub>0</sub>) Initiate

Input  $\rightarrow 0$

Output  $\leftarrow$  arr.

(start?)  $\rightarrow$

(S<sub>1</sub>) Read arr :  $\overset{0}{2} \overset{1}{5} \overset{2}{3} \overset{3}{0} \overset{4}{2} \overset{5}{3} \overset{6}{0} \overset{7}{3}$ ,  $\text{count}++$   
Find Max. ( $2^8 = 256$ ) :  $\text{max} = 5$

(S<sub>2</sub>) Create Count Arr (RAM),  $\text{high} \text{ max} + 1 : 6$  ( $2^8 + 1 = 257$ )  
( $2^8$ )  
arr: 0 1 2 3 4 5  
count: 2 0 2 3 0 1

(S<sub>3</sub>) : cumulative Sum

arr: 0 1 2 3 4 5  
count: 2 0 2 3 0 1  
read arr  
Sum: 0 2 2 4 7 7 8  
write arr  
arr: 2 2 4

(S<sub>4</sub>) : Create Output Arr (RAM)

known, Print First Line

(S<sub>5</sub>) : Fill

(S<sub>7</sub>) : Done

val = 1

Print ();

done = 1

< Print = 1 >