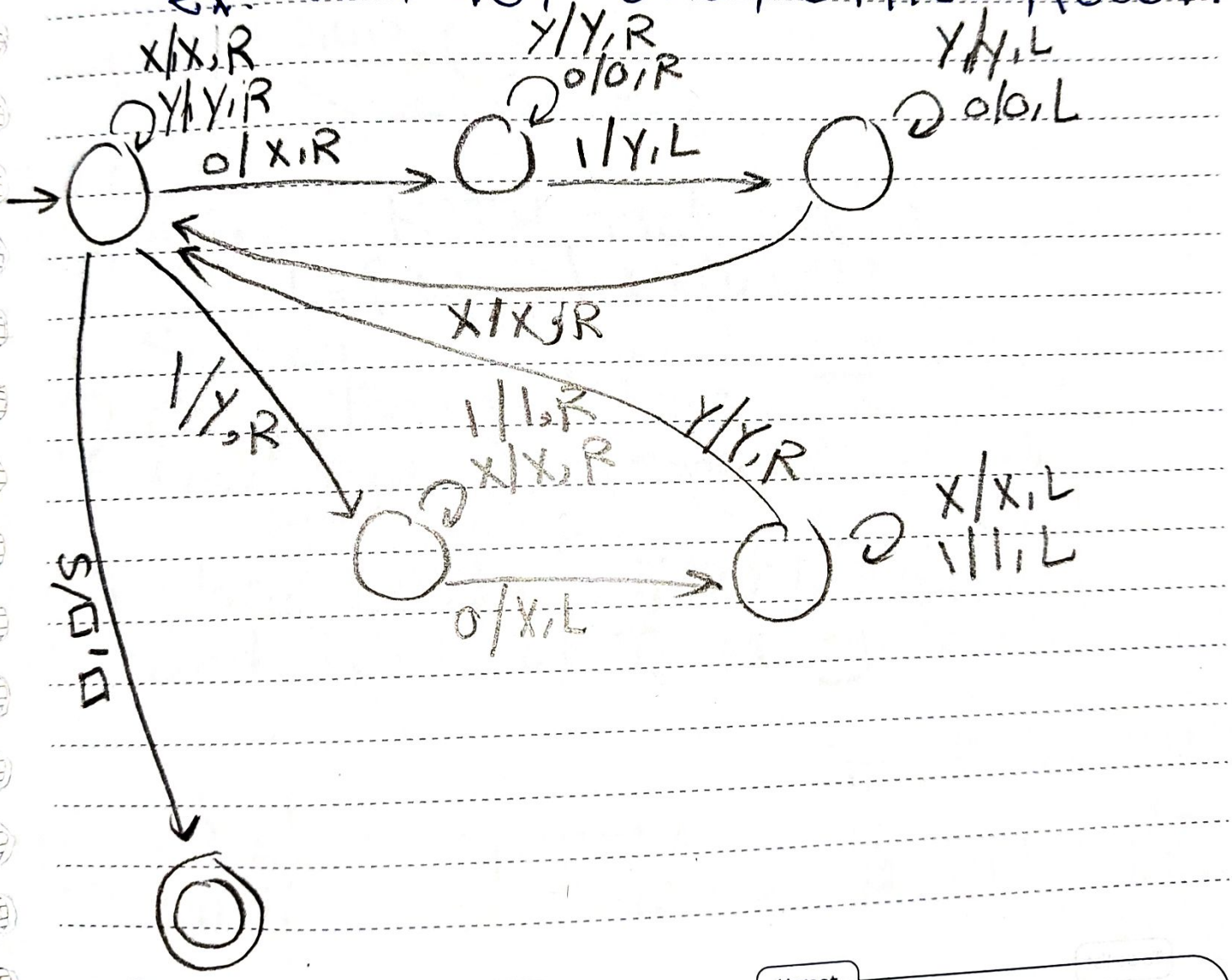
Theory Sec "7"

Date : / /

[1] Design a STTM to accept.

L = { w | Contains as many number of a's and 1's in any order }

Ex: 01 , 10 , 0110 , 011100 , 100011

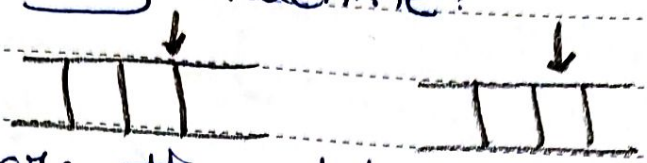


To do list

Urgent

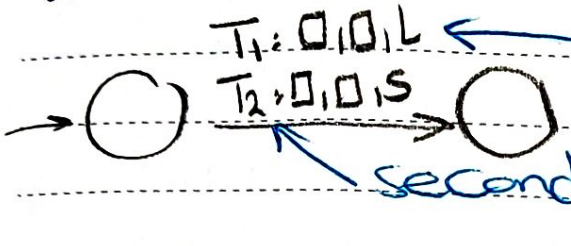
Date : / /

→ Multi-tape Turing Machine:



TM with more than 1 tape

* Transitions write as:

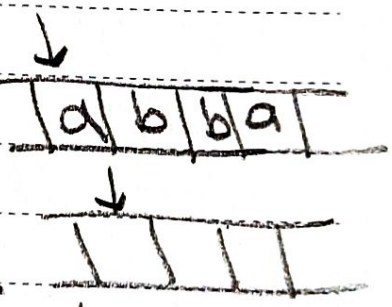


[2] Design MTTM that accept (2-taps)

$L = \{ w w^R \mid w = \{a,b\}^* \}$

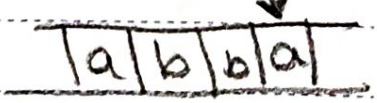
Solution:

① Copy the word from first tape to second one



② Place head of T_1 at left most and head of T_2 at right most

③ Start to Compare until finish the word.



To do list

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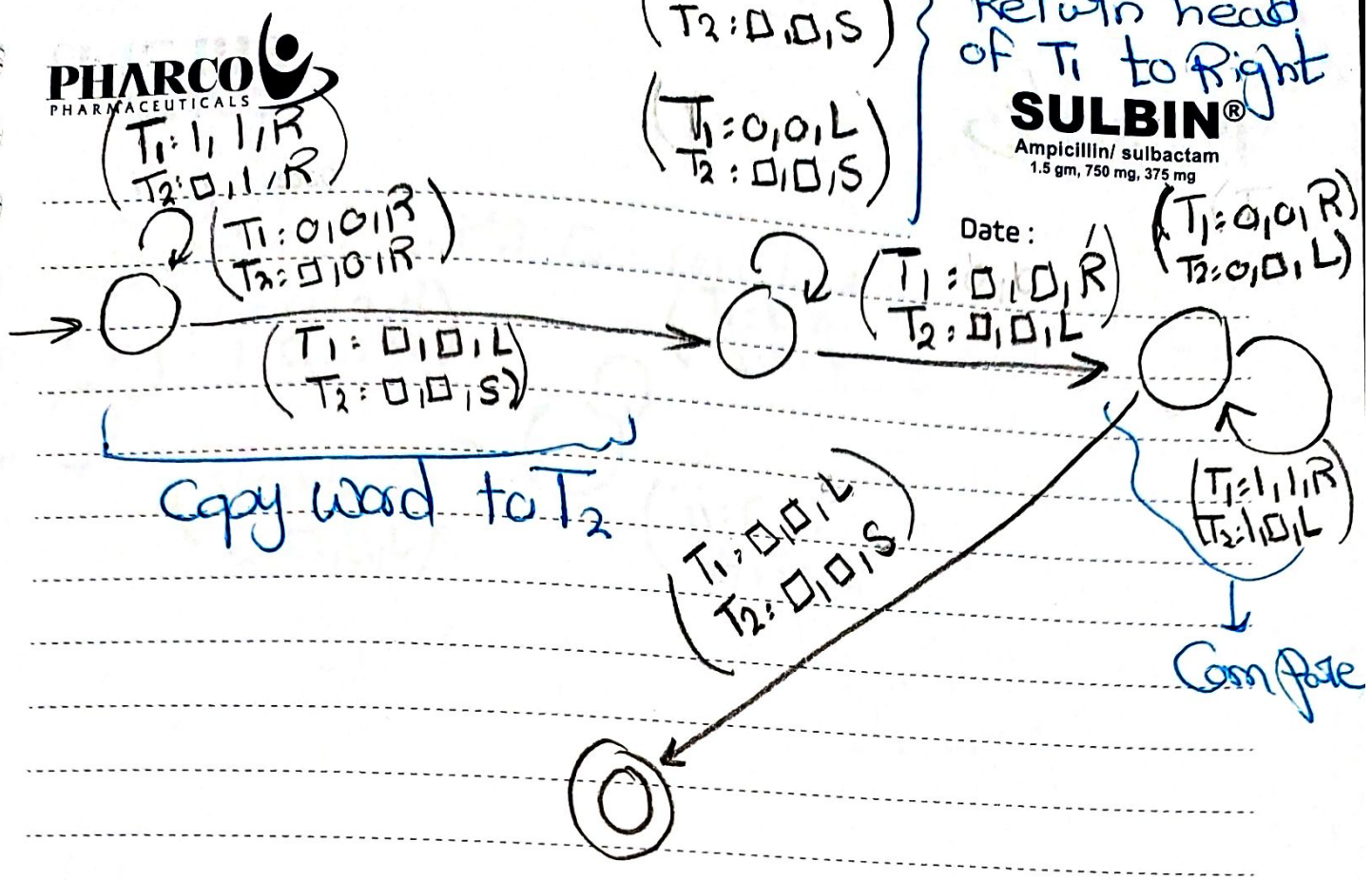


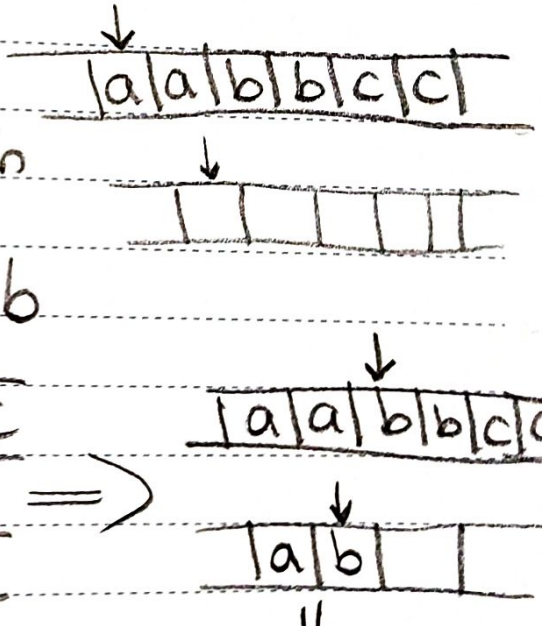
Date: / /

[3] Design a 2-TTM to accept:

$L = \{a^n b^n c^n : n > 0\}$

Solution:

1. Copy a to t2
2. when finish a, Copy b in Same place of a until finish a, and b



To do list

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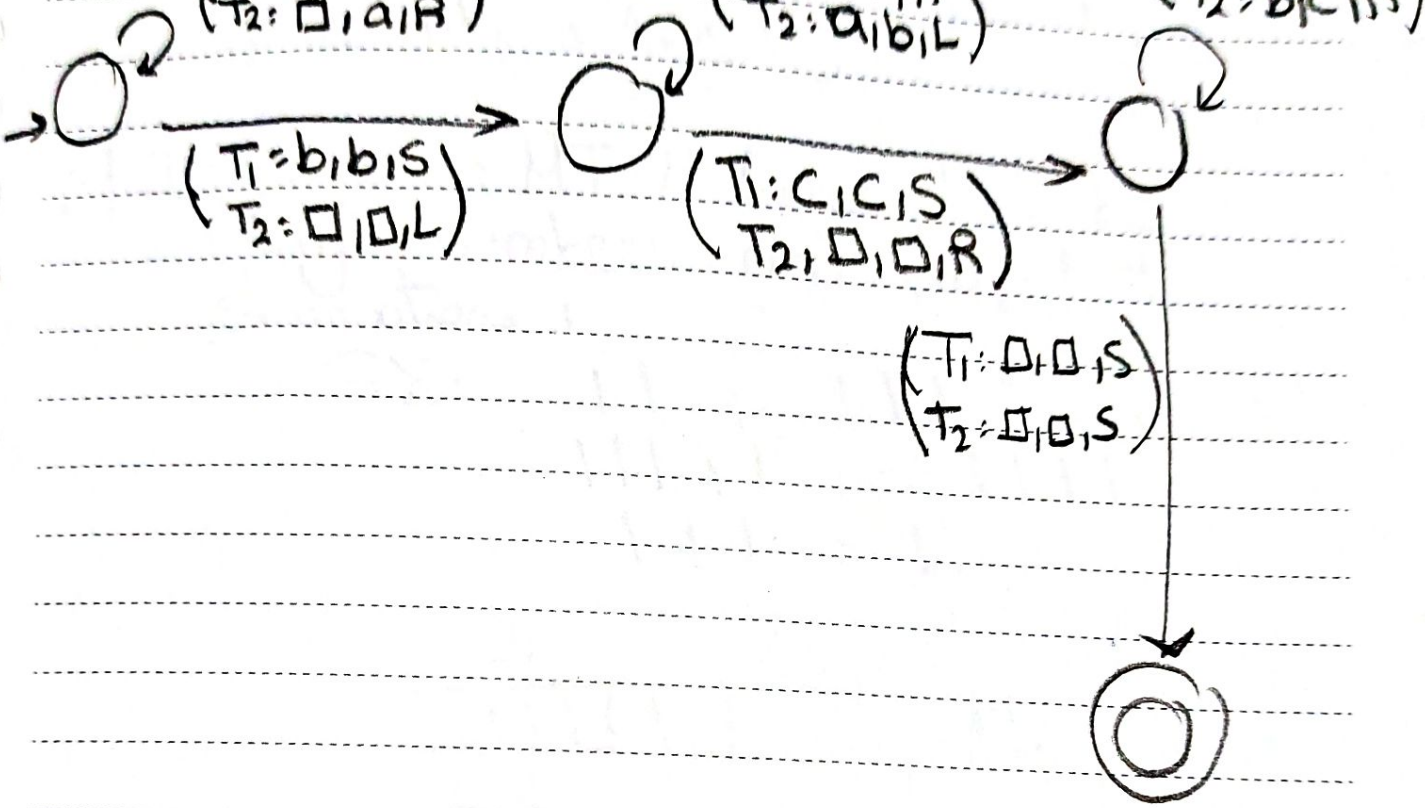
Date : / /

③ Repeat with C until finish



Date : / /

TM Transeduser:

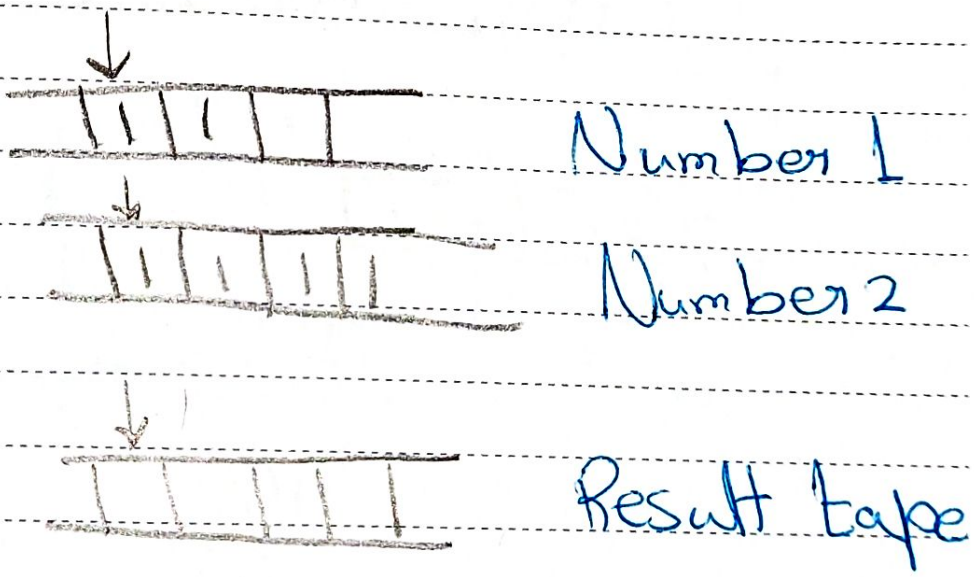
→ Turing machine that take input and output Results

4 Design a MTTM take ~~two~~ two unary numbers and output the summations :

EX: 11 + 111 = 11 111

111 + 1 = 1111

1 + 1 = 11



To do list

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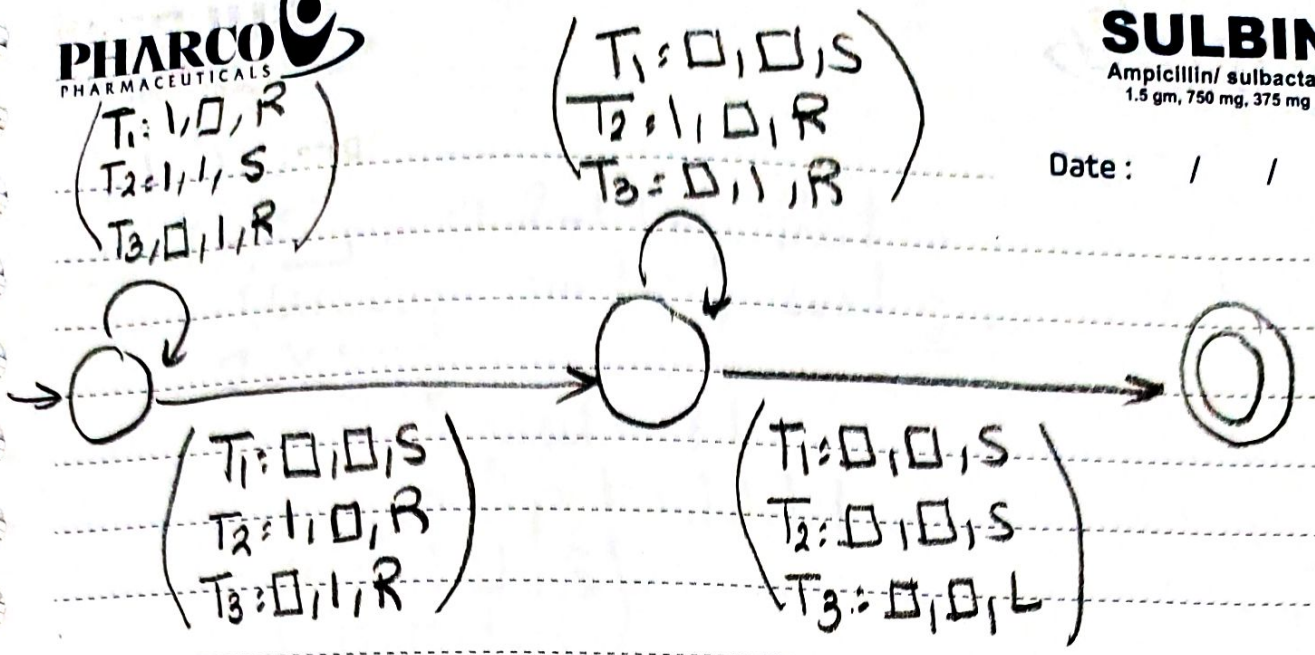
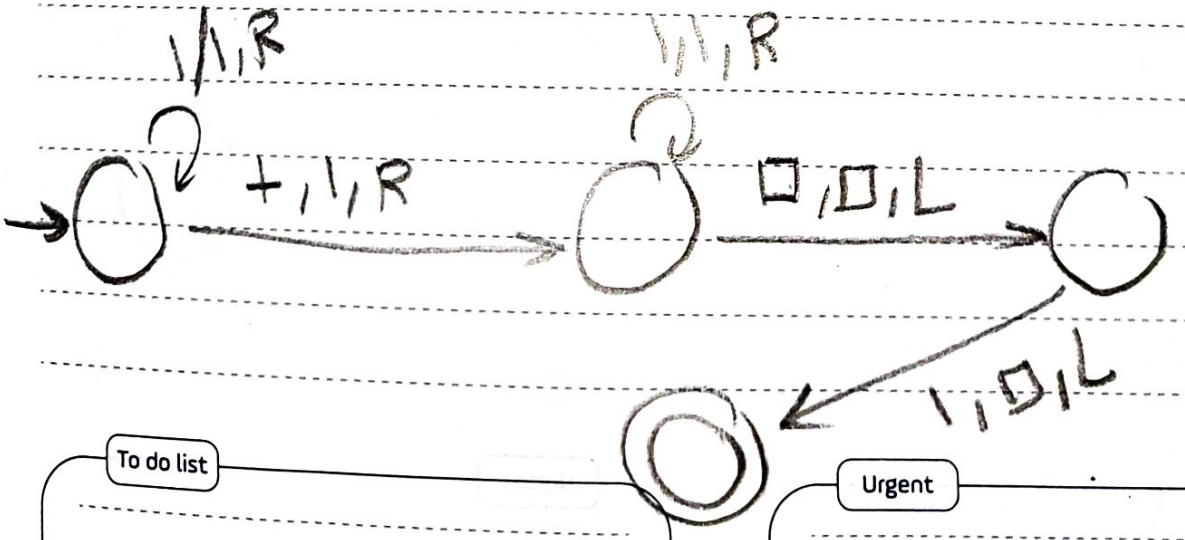


5 Design STTH to take 2 unary numbers as 11 + 111 and output sum : 11111

to output the summation Convert + to 1 and Convert final 1 to □



To do list

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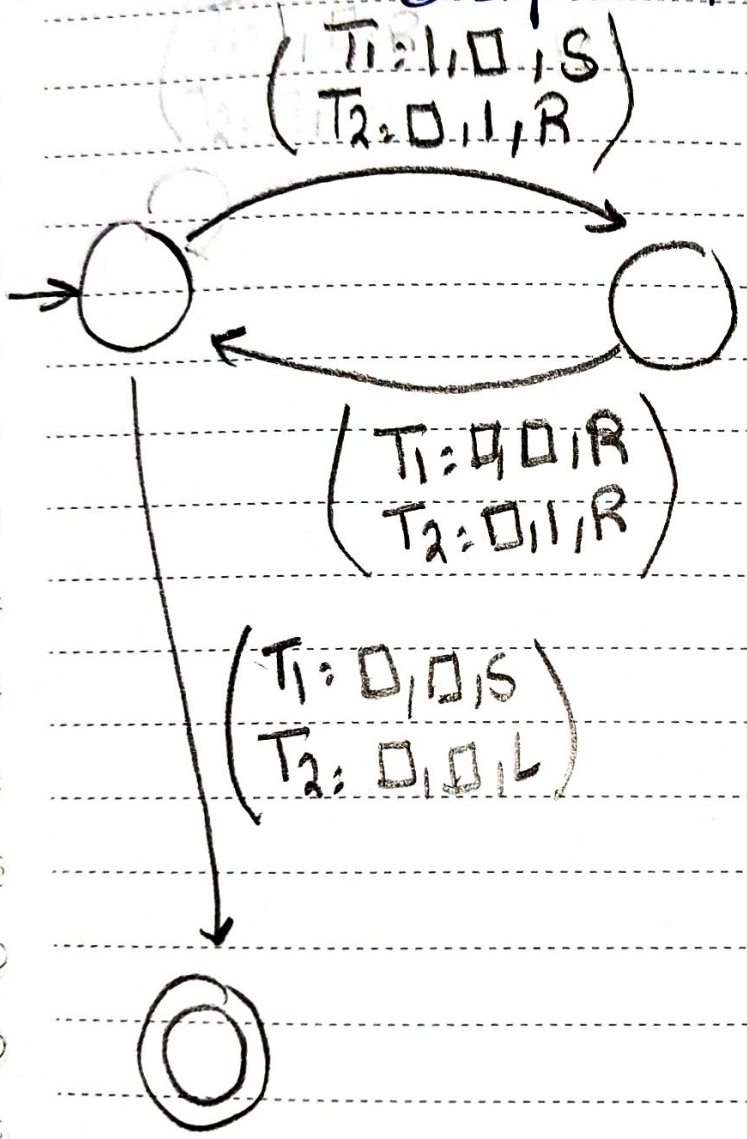
Date : / /

[6] Design a 2-TTH that has input X (unary number) and give output 2X.

Input: 11
output: 1111



To do list

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