

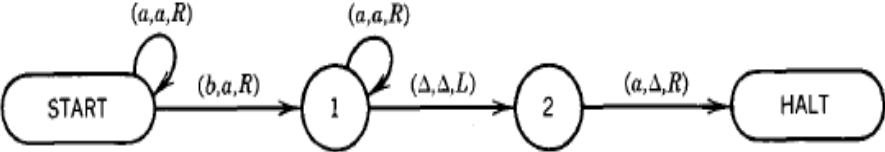
# COMPUTER

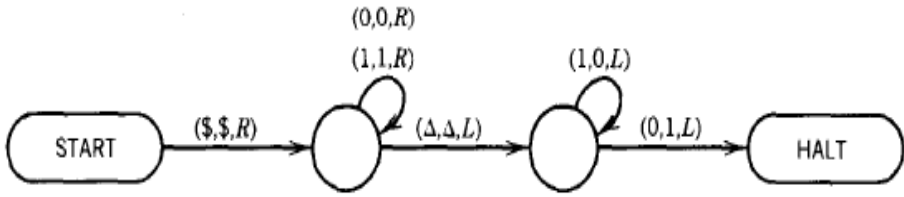
If we start with the input string  $a^n b a^m$ , we end up with:

$$a^{n+m}$$

$$\mathbf{a^* b a^*}$$

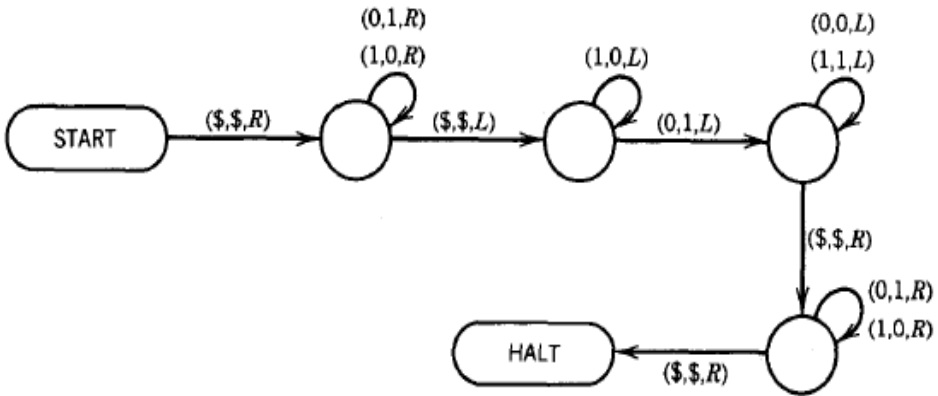
Consider the following TM called ADDER:





This TM presumes that the input is of the form:

$$\$(0 + 1)^*$$



- If  $m$  and  $n$  are nonnegative integers, then their simple subtraction is defined as

$$m \dot{-} n = \begin{cases} m - n & \text{if } m \geq n \\ 0 & \text{if } m \leq n \end{cases}$$

