

Consider a Turing machine that has start state 0 and the following transitions:

State	Symbol	$\delta(\text{State}, \text{Symbol})$
0	#	(1, #, R)
1	<i>a</i>	(1, <i>a</i> , R)
1	<i>b</i>	(1, <i>b</i> , R)
1	#	(2, #, L)
2	<i>a</i>	(3, #, R)
2	<i>b</i>	(5, #, R)
2	#	(2, #, Y)
3	#	(4, <i>a</i> , R)
4	<i>a</i>	(4, <i>a</i> , R)
4	<i>b</i>	(4, <i>b</i> , R)
4	#	(7, <i>a</i> , L)
5	#	(6, <i>b</i> , R)
6	<i>a</i>	(6, <i>a</i> , R)
6	<i>b</i>	(6, <i>b</i> , R)
6	#	(7, <i>b</i> , L)
7	<i>a</i>	(7, <i>a</i> , L)
7	<i>b</i>	(7, <i>b</i> , L)
7	#	(2, #, L)

Trace the execution of this Turing machine with the string *#ab#####* as input.