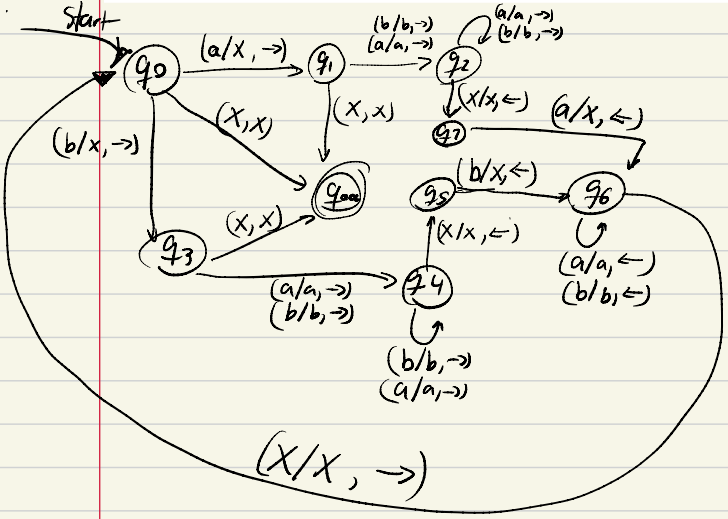
Task #2

(a) [**10 Points**] Check if a string $\in \{a, b\}^*$ (given on the input tape) is a palindrome.



6-Tuple TM :

$M = (\{q_0, q_1, q_2, q_3, q_4, q_5, q_6, q_7\}, \{a, b, X\}, \{a, b, X\}, \{\delta\}, q_0, q_{acc})$

where δ =

	Symbol		
State	a	b	X
q_0	$(q_1, X, \rightarrow)$	$(q_3, X, \rightarrow)$	(X, X)
q_1	$(q_2, a, \rightarrow)$	$(q_2, b, \rightarrow)$	(q_{acc}, X)
q_2	$(q_2, a, \rightarrow)$	$(q_2, b, \rightarrow)$	$(q_7, X, \leftarrow)$
q_3	$(q_4, a, \rightarrow)$	$(q_4, b, \rightarrow)$	(X, X)
q_4	$(q_4, a, \rightarrow)$	$(q_4, b, \rightarrow)$	$(X, \leftarrow)$
q_5	—	$(q_6, X, \leftarrow)$	—
q_6	$(q_6, a, \leftarrow)$	$(q_6, b, \leftarrow)$	$(q_0, X, \rightarrow)$
q_7	$(q_6, X, \leftarrow)$	—	—