SE 4367 (Software Testing)
Homework #10, FSM Testing Tree

Given a finite state machine with

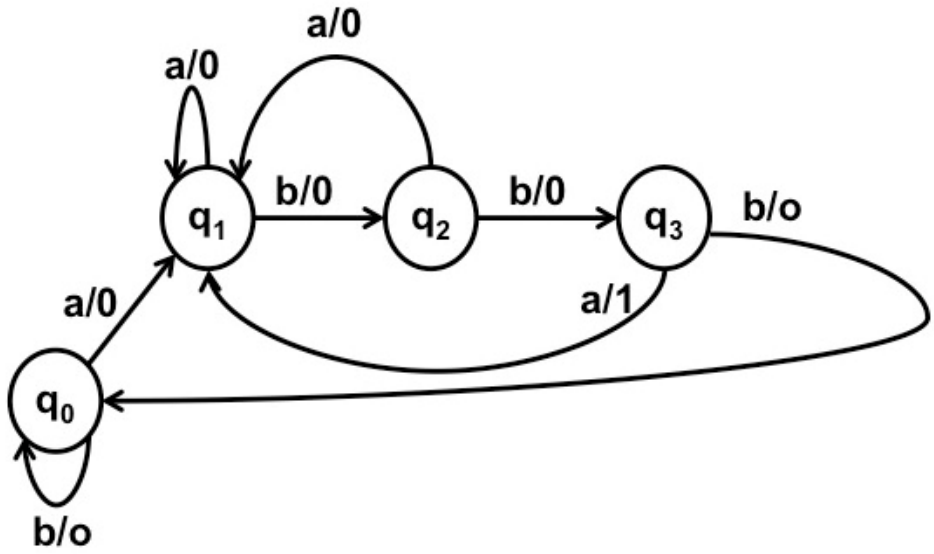
- input alphabet {a, b}
- output alphabet {0,1}

that will recognize the substring **abba**.

It outputs 0's until recognizing a substring, then outputs a 1.

It recognizes overlapping substrings.

The FSM does not terminate. The initial state is q_0.



Current state	Next state / Output	
	a	b
q_0	$q_1/0$	$q_0/0$
q_1	$q_1/0$	$q_2/0$
q_2	$q_1/0$	$q_3/0$
q_3	$q_1/1$	$q_0/0$

a) Draw the FSM's testing tree using the notation from Mathur's Example 5.11.

b) What is the transition cover set for the FSM?

Grading Rubric

Each of the two parts is worth a maximum of 50 points.

a) each wrong node or transition in the testing tree is worth -3 points

b) each wrong or missing path in the transition cover set is -5 points