Coral Schmidt Montilla #148830

The following are the state diagrams of two DFAs, M1 and M2. Answer the following questions about each of these machines.

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Description automatically generated with medium confidence

a. What is the start state?

b. What is the set of accept states?

c. What sequence of states does the machine go through on input aabb?

d. Does the machine accept the string aabb?

e. Does the machine accept the string "?

M1

The initial state is q1, shown by the arrow pointing towards it without transitioning from another state. The approved state is {q2}, the only one with a double circle. The machine runs through the following states for input 'aabb': q1 -> q2 -> q3 -> q3 -> q3. The machine rejects the string because it ends in the incorrect state q3. If the string "?" is entered, the machine will accept it because the start state q1 is also accepted.

M2

The initial state is q1, as evidenced by the arrow pointing to it without leaving another state. The set of acceptable states is {q2, q4} due to the double circles. The machine runs through the following states for input 'aabb': q1 -> q1 -> q2 -> q4 -> q4. The machine accepts the string because it ends in the accept state (q4). If the text "?" is entered, the machine rejects it since the start state q1 is not accepted.