

State Diagrams Additional Tutorial Problem

Magic Word

Professor Martinez needs a state machine that will recognize the word ‘mammal’ when typed on a keyboard. Specifically, it must read any sequence of the letters m, a, and l (you may assume no other letters will be typed). It should move into a final state immediately after seeing ‘mammal’ (regardless of what letters came before those six in the sequence) and then remain in that final state as further characters come in. For efficiency, the state machine must be deterministic. Specifically, if you look at any state s and any action a , there is **exactly** one edge labelled a leaving state s .

Draw a deterministic state diagram that will meet his needs.