Again, we should name the states in this diagram.

Some people made the mistake of retaining the 0-9 loop from the start state back to the start state from part (a). This is incorrect. You can think of the loop as “throwing out information.” One of the letters it sees may be another appearance of the final letter, and this must influence the machine’s acceptance.

Many people didn’t think of the special case where the length of the string is one; to accept such strings (as the problem implies you should), you need the 0-9 transition from the start state to a final state.

Again, you can combine all the final states into just one if you’d like.

This automaton “guesses” which letter will be at the end, ensures it is not the first or any non-end letter, then “checks” to verify that it indeed is the letter at the end.