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LE10.3

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LE10.3.1: Computation by FSMs

1.0/1.0 point (ungraded)

We saw that certain functions, such as parentheses checking, cannot be performed by any finite state machine. Which of the following can be performed by an FSM? Assume, in each case, that the device is to take a series of 0s and 1s that represent the digits of a binary number entered left-to-right. The device is to have a single output, which is 1 only under the specified conditions:

(A) When the last 277 digits entered have been alternate 1s and 0s.

☒ Yes, can be performed by FSM

☐ No, cannot be performed by FSM



(B) When more 0s than 1s have been entered.

☐ Yes, can be performed by FSM

☒ No, cannot be performed by FSM



(C) When an odd number of 1s and and even number of 0s have been entered.

☒ Yes, can be performed by FSM

☐ No, cannot be performed by FSM



(D) When the number entered thus far is divisible by 3.

☒ Yes, can be performed by FSM

☐ No, cannot be performed by FSM



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