Quiz 2 Solution

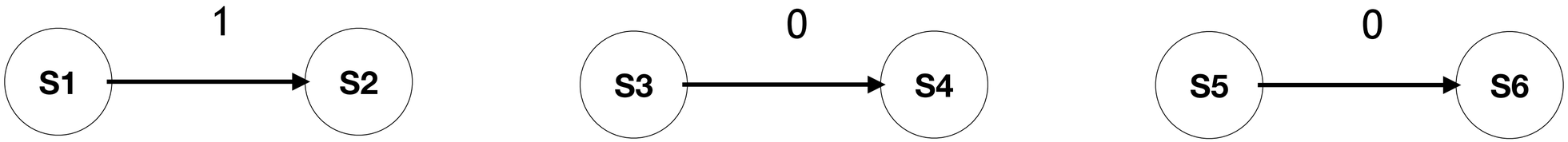
1. Write a regular expression that specifies the language {x | x is a string of 0s and 1s that either contains an odd number of 1s or an even number of 0s}. Some examples strings in the language are 1, 00, 010101, 1010, 11001. The empty string is in the language (i.e. treat the empty string as a string with an even number of 0s).

Even number 0s 1*(01*01*)*

Odd number of 1s 0*(10*10*)*10*

Even number of 0s or odd number of 1s (1*(01*01*)*) | (0*(10*10*)*10*)

2.. Use the RE to NFA algorithm to create an NFA that accepts the language specified by the regular expression **(100)*** | (011)*. Follow the algorithm. Do not simplify the NFA.



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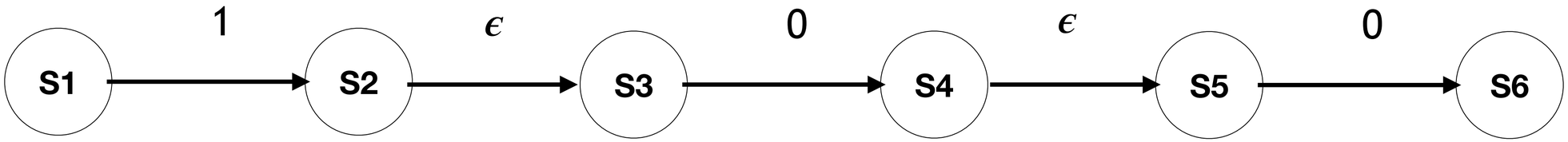

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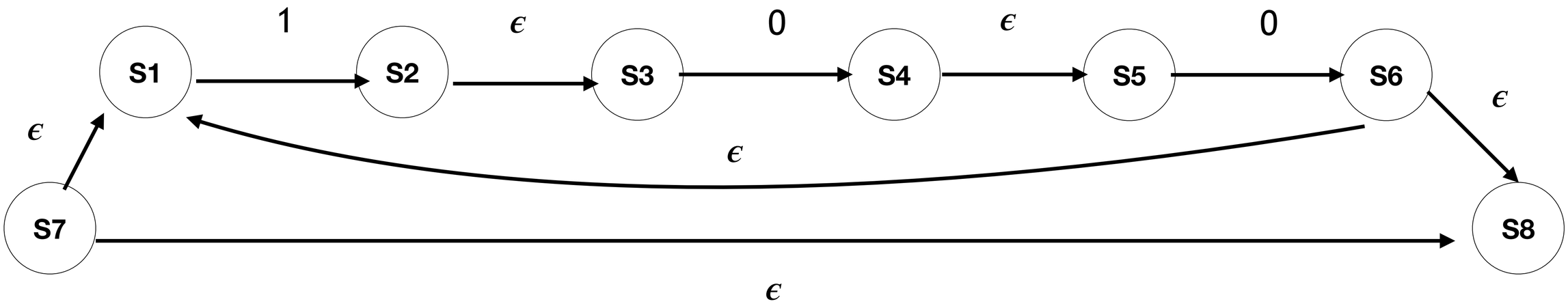

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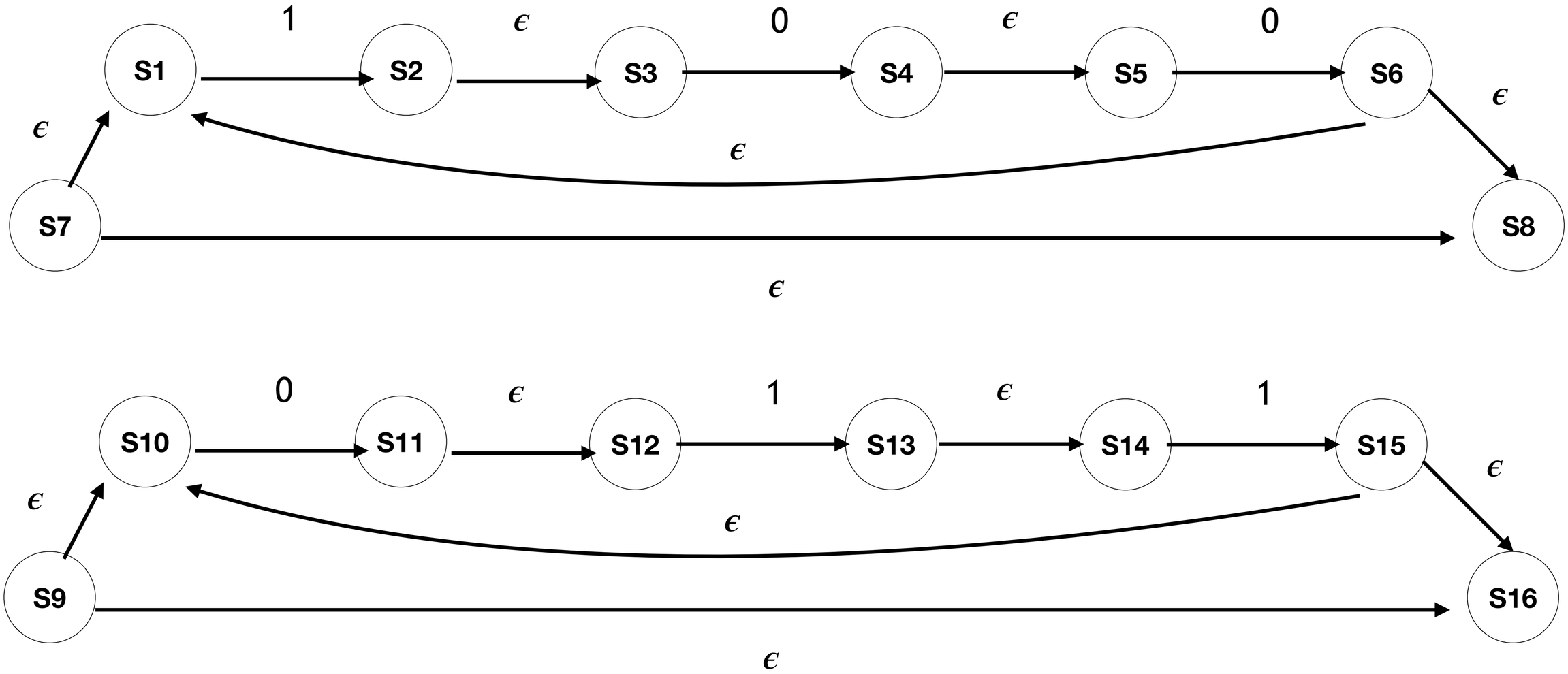

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