

Software Specifications
Convert State Diagram to Regex-Examples

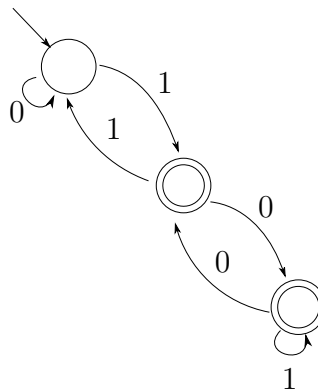
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February 1, 2022

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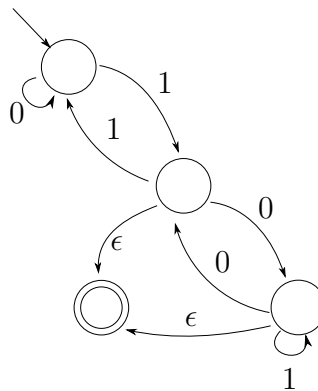
2

Example

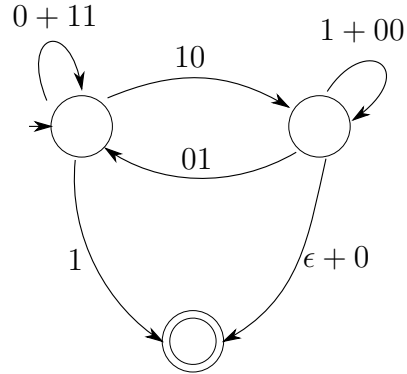
given the following State Diagram, convert it to an equivalent Regex.



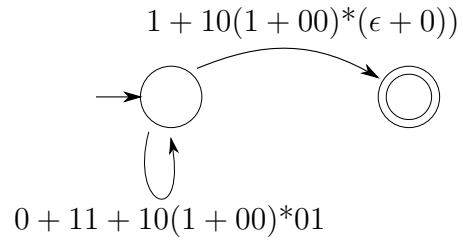
We must first pre-process the graph as it has more than one end state. Thus, we will add another final state where each final state transitions to it via. ϵ -transition



We will now eliminate the centre node and add the required transitions



Now we will eliminate the Right state to get our final General State Diagram



And thus, from our generalized state diagram, the corresponding Regex for the given State Diagram is the following:

$$(0 + 11 + 10(1 + 00)^*01)^*(1 + 10(1 + 00)^*(\epsilon + 0))$$