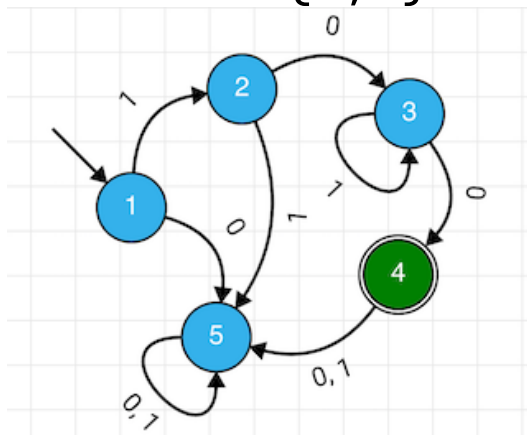


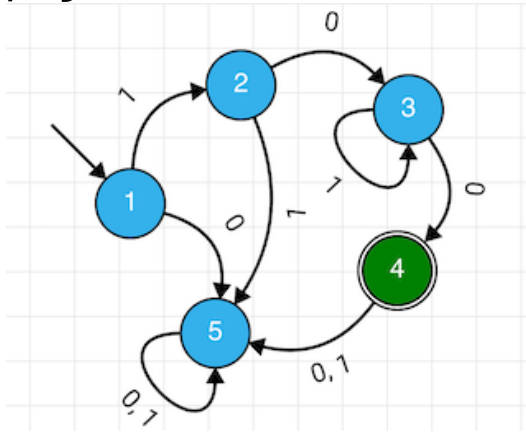
1. Which of the following regular expressions describes the language recognized by the DFA below? Note:  $\Sigma = \{0,1\}$ .



*(3 points)*

- A.  $110^*1$
- B.  $1^*010$
- ✓ C.  $101^*0$
- D.  $1010^*$

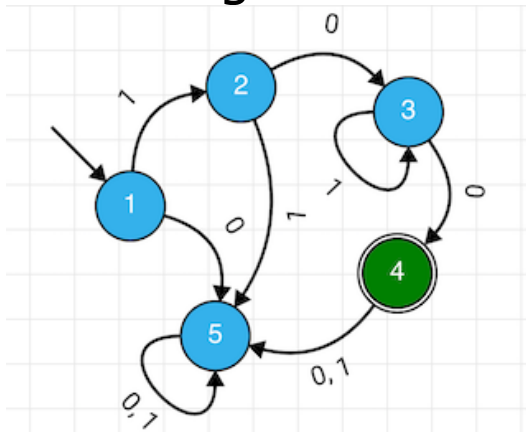
2. What is minimum pumping length for the language recognized by the DFA below?  
Note:  $\Sigma = \{0,1\}$ .



*(3 points)*

- A. 2
- B. 3
- ✓ C. 4
- D. 5

3. We know that the DFA below recognizes the regular language given by  $101^*0$  for  $\Sigma = \{0,1\}$ . How many additional states would be needed if we wanted to modify the DFA to recognize any string containing  $101^*0$  as a substring?



*(3 points)*

- A. 1
- B. 2
- C. 3
- ✓ D. none of above