PES UNIVERSITY, Bangalore

(Established under Karnataka Act No. 16 of 2013)

Department of Computer Science & Engineering

Automata Formal Languages & Logic

Q&A

1. Match the Regular expression with regular grammar.

Regular Expression	**Regular Grammar**
0*(1(0+1))*	S->0S|A|λ A->1B B->0A|1A|0|1
0*(10)*1(0)*	S->0A A->10A0|B B->1
(0+10*10*)*	S->1A|0S| λ A->1S|0A
(1+0)*10(1+0)*	S->0S|1A A->1A|0B B->1A|0B| λ
(0+1(01*0)*1)*	S->0S|1A| λ A->1S|0B B->0A|1B

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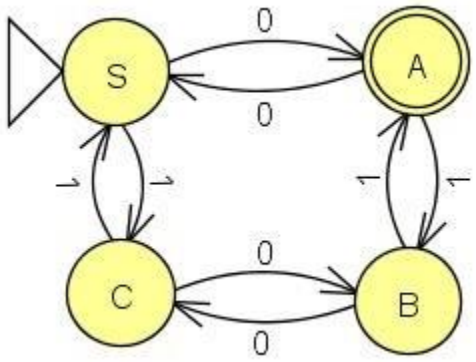
2. Convert the automata to regular grammar.



Solution:

S-0A|1C

C->1S|0B

B->0C|1A

A->0S|1B|λ

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3. Convert the regular grammar to finite automata.

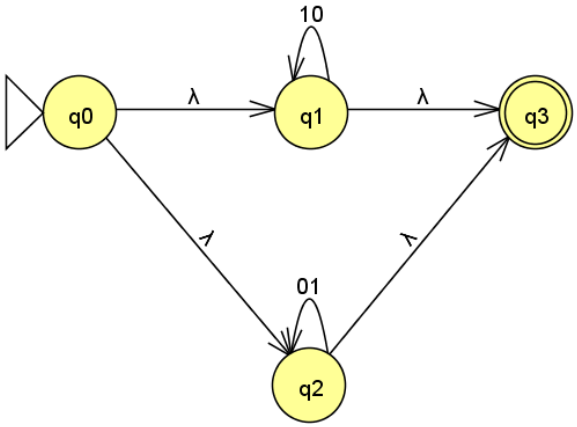
   S->A|B

   A->01A|λ

   B->10B|λ

Solution:

NFA:



DFA: