

SPPU-TE-COMP-CONTENT - KSKA Git

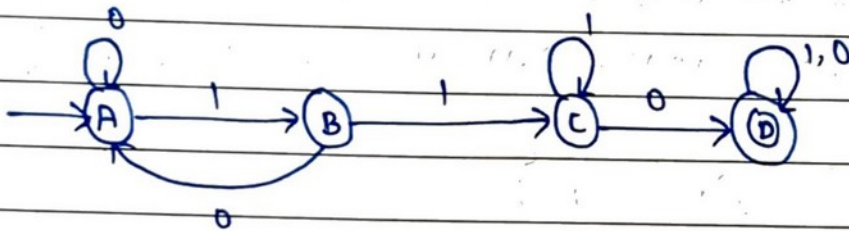
21/06/2024

ASSIGNMENT: NO: 1: (ONE):-

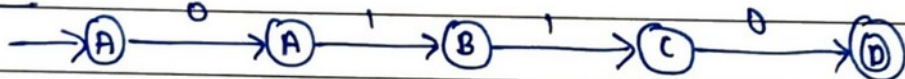
Q1.] Design a DFA over the alphabet $\{0,1\}$ that contains all the strings that contain the substring 110.

ANS. SOLUTION:-

Here, $L = \{110, 1110, 0110, 1101, 1100, 11011, \dots\}$



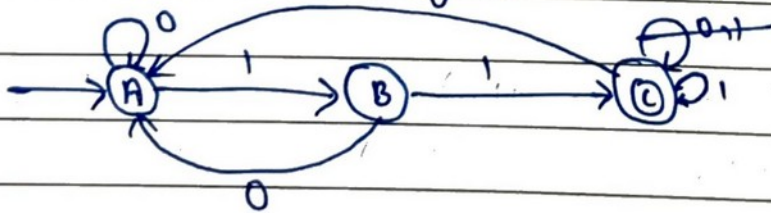
For Eg:- ① 0110



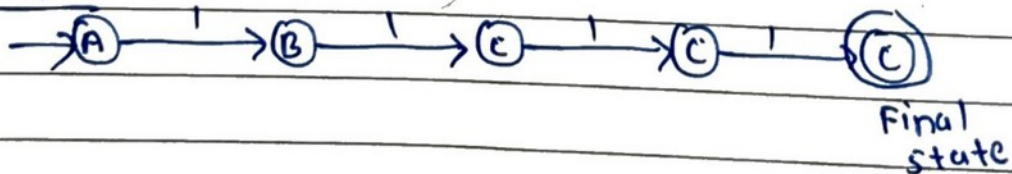
Q2.] Design a DFA over the Alphabet $\{0,1\}$ that accepts all the strings that ends with 11

ANS. SOLUTION:-

$L = \{11, 011, 111, 1011, 1111, 0111, 11011, \dots\}$



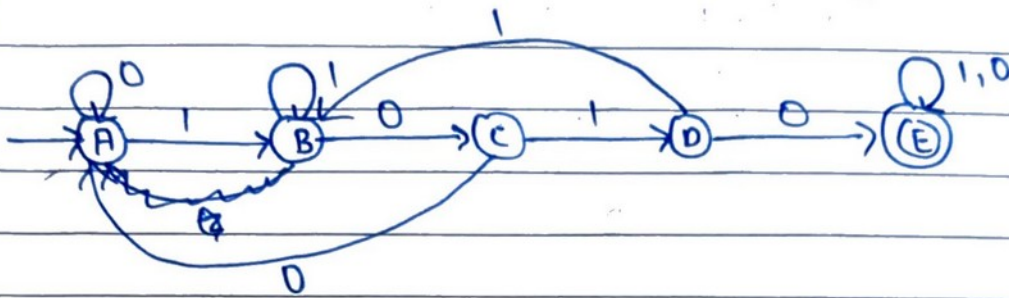
For Eg:- 1111



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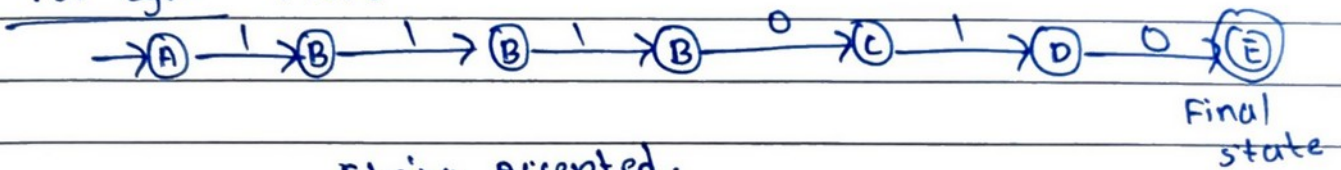
Q3. Design a DFA that accepts the following strings.

① 1010



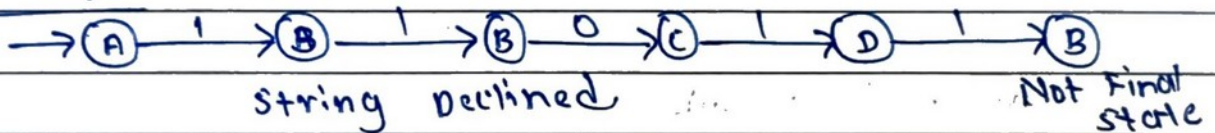
$L = \{ 01010, 11100, 111010110, 000101011, \dots \}$

For Eg:- 111010



String Accepted.

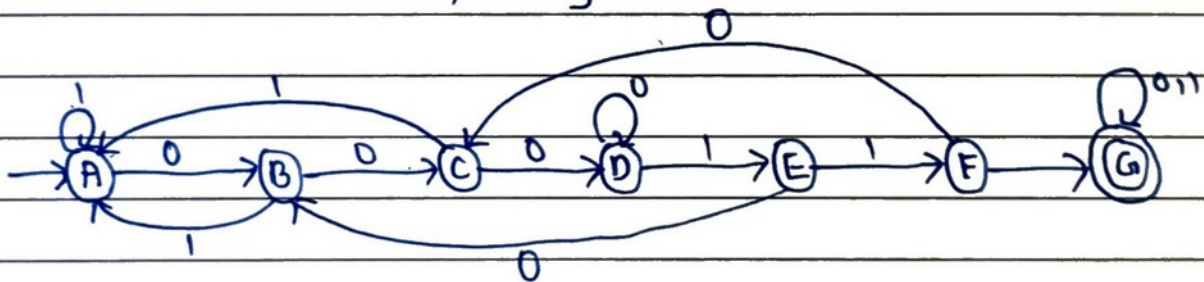
For Eg:- 111011



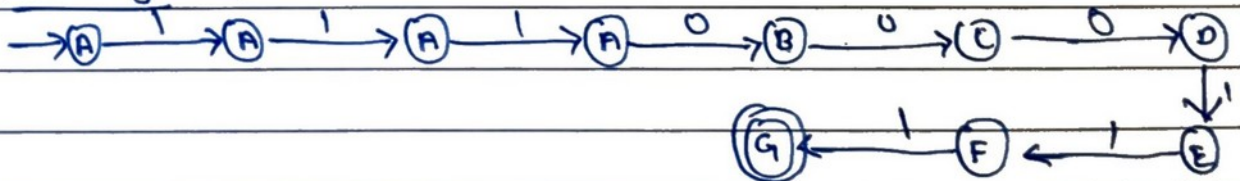
String declined

② 0001117

$L = \{ 111000111, 011000111, 0110011000111, 0001111110, 1000111001, \dots \}$



For Eg:- 111000111

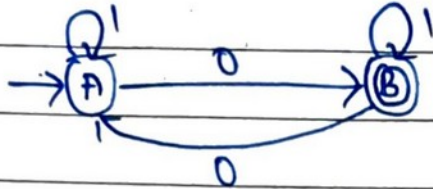


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DATE: _____

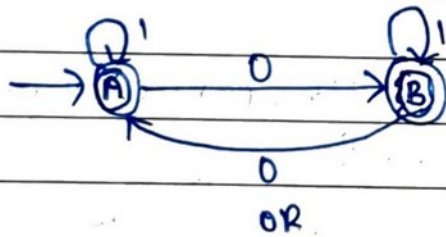
(3) DFA that Accepts odd No. of zeroes.

→ $L = \{ 0, 0001, 011, 101, 100000, 1000001, \dots \}$



(4) DFA that Accepts Even Number of zeroes.

→ $L = \{ 100, 10000, 100001, 1001, 001, 1000000, \dots \}$



OR

