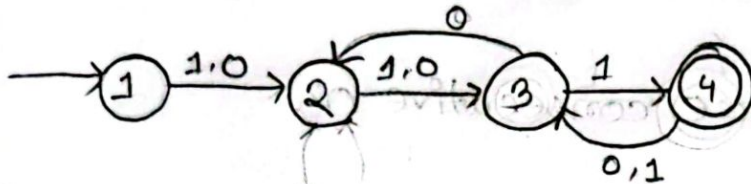
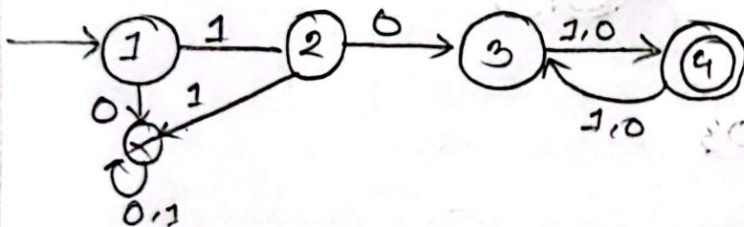


DFA
Spring-2020

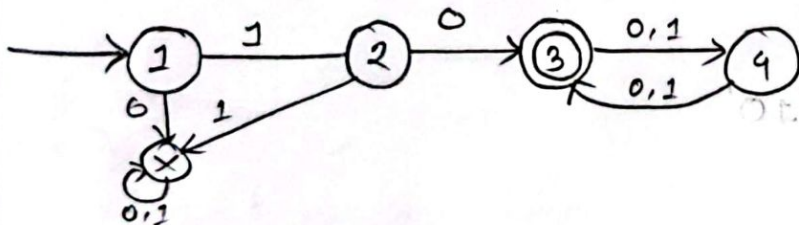
- ① 0's & 1's which is of odd length & ends with 1
 $(01)(01)(01)((10)(10))^*$



- ② Starting with 10 and odd length.
 $10(10)((10)(10))^*$

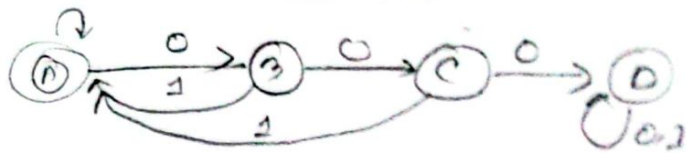


- ③ Even length: 10 start $10((10)(10))^*$



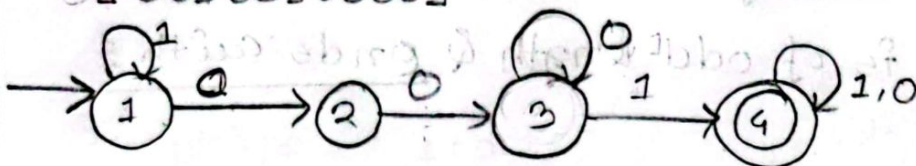
- ④ Spring-21

All string no 011 is multiple of 3 ?



⑤ Substring of 2 or more 0's followed by a 1

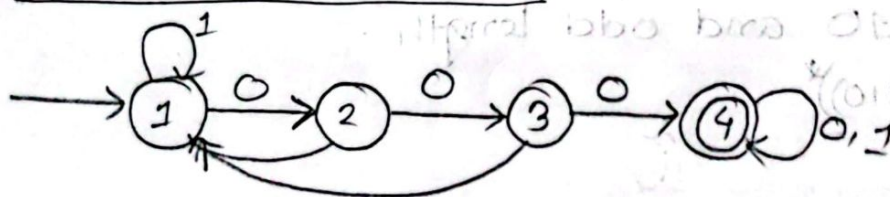
0100100100001



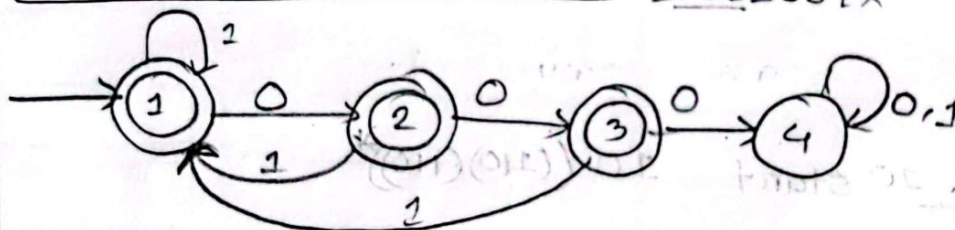
⑥ Fall 21

do not contain's three consecutive 0's

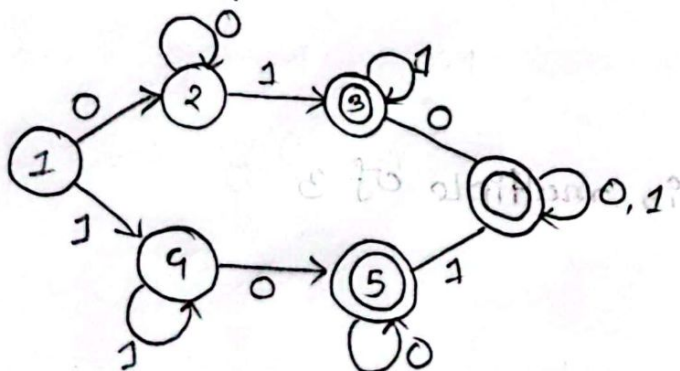
For consecutive 3 0's



Without consecutive 3 0's 10001001X

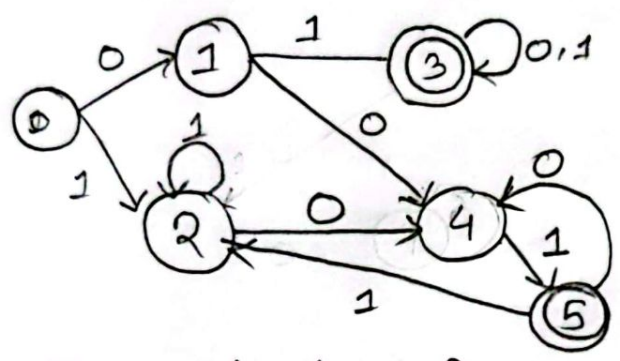


⑦ Substring '01' or '10'

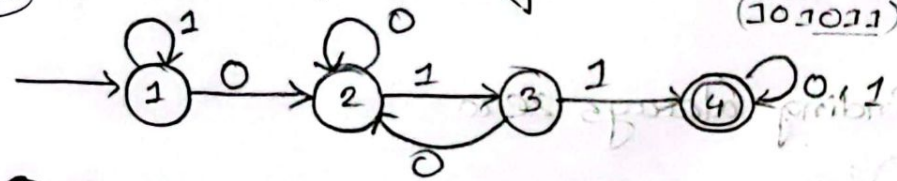


8. ends with 1 or it ends with an even n.

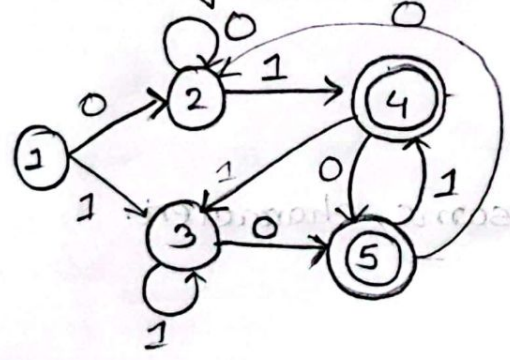
9. Start or ends with '01'



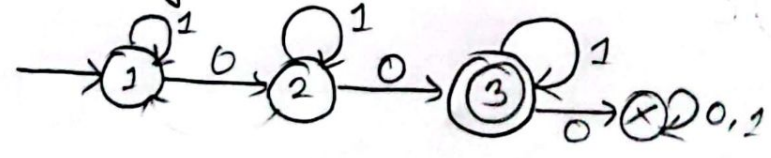
10. The set of strings with '011' as a substring



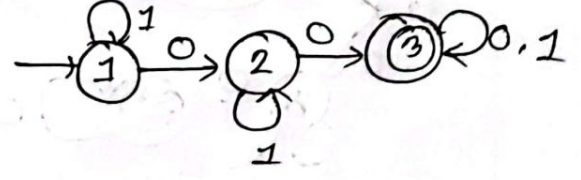
11. Ending with either '01' or '10'.



12. exactly two '0'.



13. At least two '0'.



14) 0 2 আশে পড়ে 1 আছে।

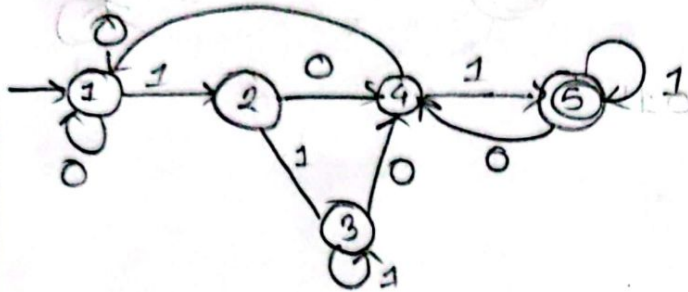
101 ✓
1110111 ✓

011x

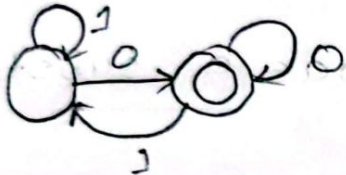
010x

11011010

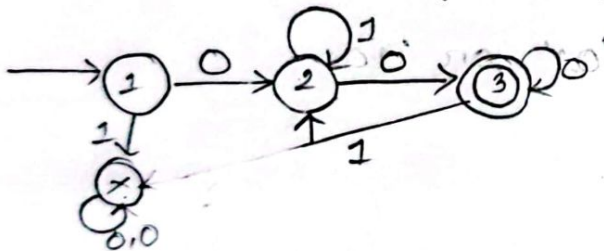
111010111
↓ 3 2
2



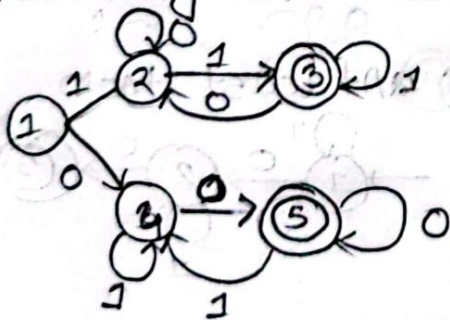
15) consecutive 0



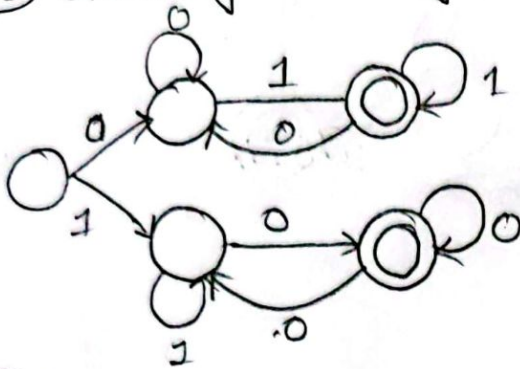
16) Starting & Ending always zero



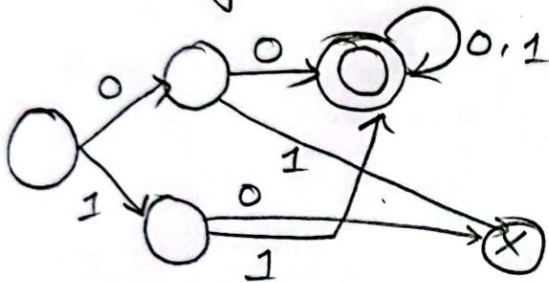
17) Starting and Ending with same character. 1001011 1
00110110



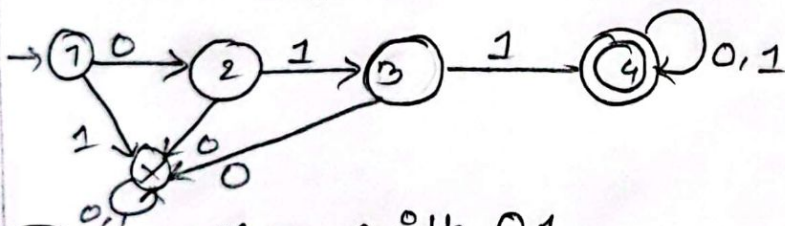
(18) starting & ending different character.



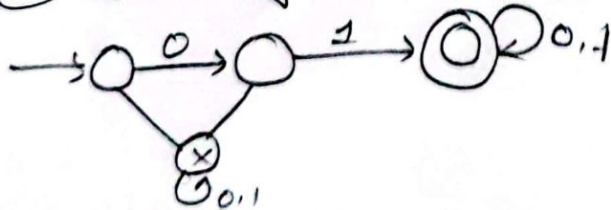
(19) Starting with 00 or 11 $(010)^* \cup (10)^*$



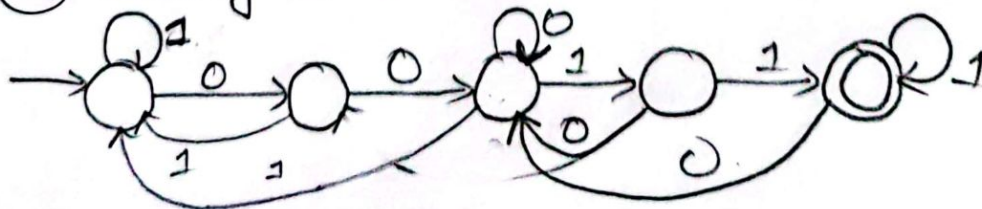
(20) Starting with 011



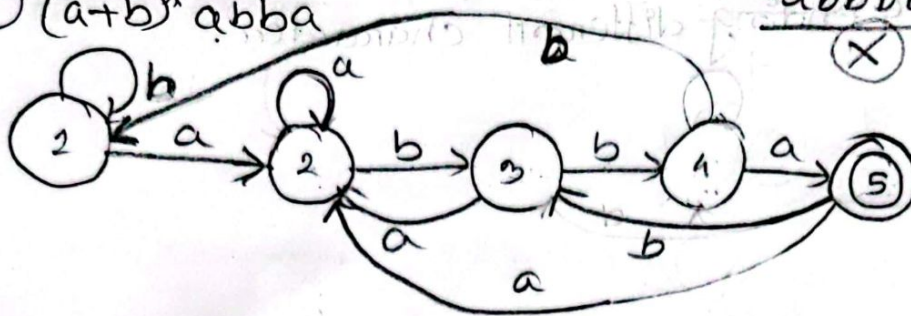
(21) Starting with 01



(22) ending with 0011



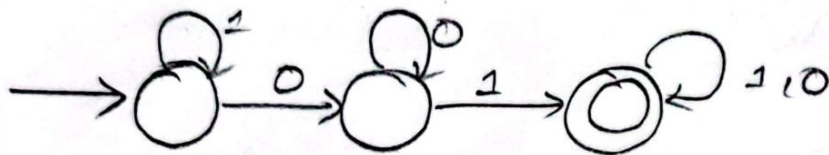
23) $(a+b)^* abba$



abbbba

(X)

24) $((01)^* 01 (01)^*)$



no other strings

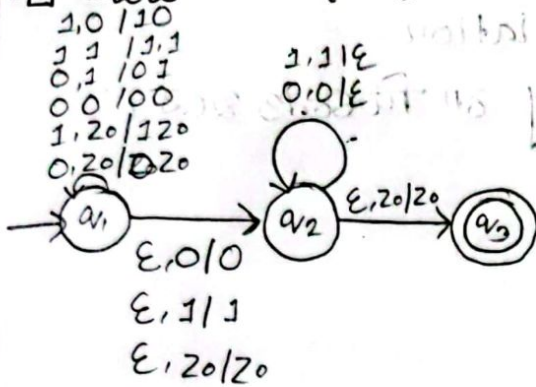
no other strings

no other strings

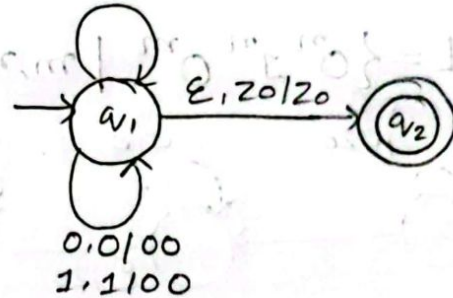
triple = (state, ω , y) \rightarrow state remaining stack content.

PDA

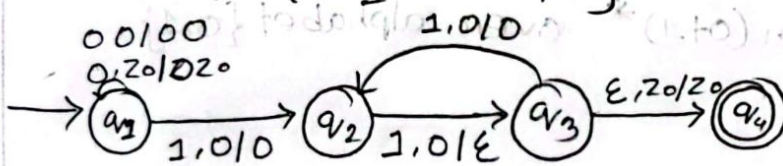
① L_{ω} over $\{0,1\}$ even length palindrome over $\{0,1\}$



② $\{\omega \in (0,1)^* \mid n_0(\omega) = n_1(\omega)\}$



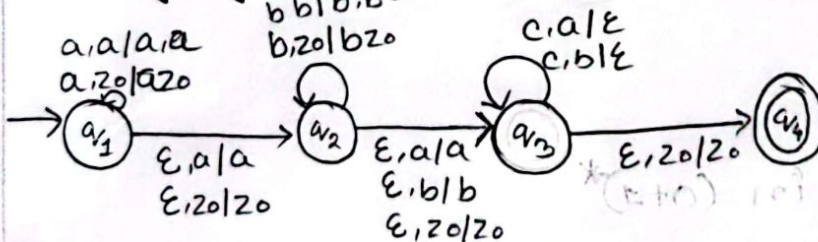
③ Language $\{0^n 1 2^n \mid n \geq 1\}$



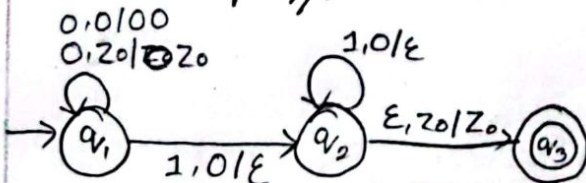
④ Language $\{a^x b^y c^z \mid x,y,z \geq 0, x+y=z\}$

$0+0=0$
 $1+1=2$
 $0+1=1$
 $2+1=3$

abc^2
 bc^1ac
 $aabcc^3$
 $aabbcc^4$

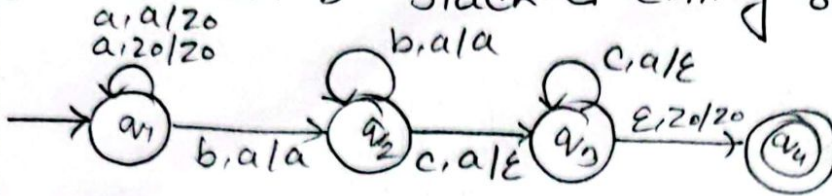


⑤ $0^n 1^n \mid n \geq 1$

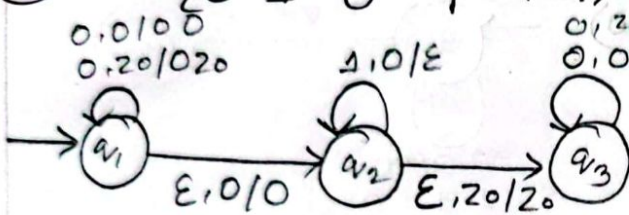


⑥ $L = \{a^n b^m c^n \mid n \geq 1, m \geq 1\}$

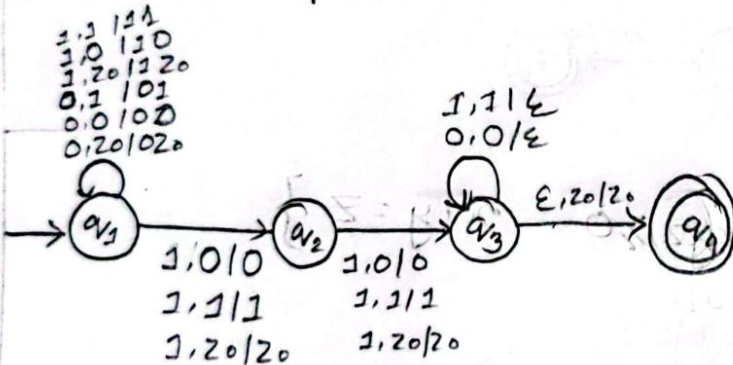
এখানে m ও n দু'জনের relation আছে তাই এটা b^m stack-এ entry রাখা দিলেই হবে।



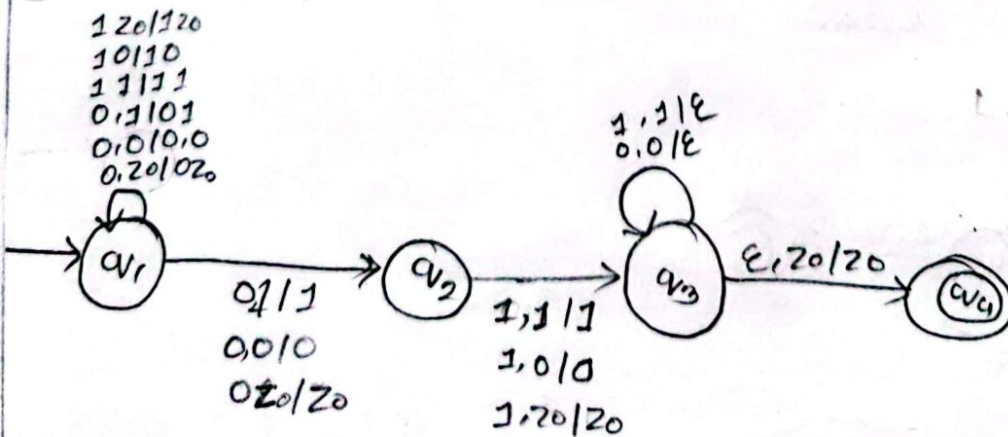
⑦ $L = \{0^n 1^n 0^n \mid n \geq 1\}$



⑧ $\omega 11 \omega^R \mid \omega \text{ is in } (0+1)^*$ over alphabet $\{0,1\}$.



⑨ $\omega 01 \omega^R \mid \omega \text{ is in } (0+1)^*$



10 $L(1^* 010^*)$

1,1/1,1
1,20/120

0,1/0,1
0,0/0,0
0,20/20
~~0,0/0,0~~

