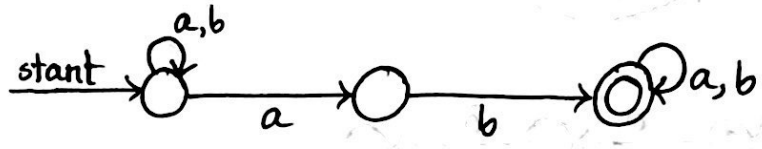
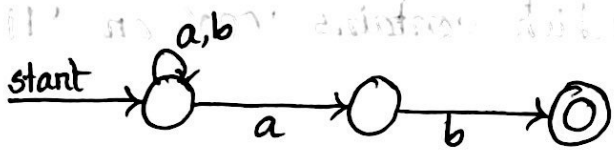
NFA Design

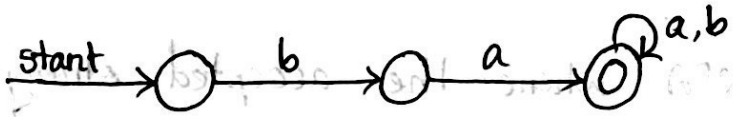
① Design an NFA that contains 'ab'.



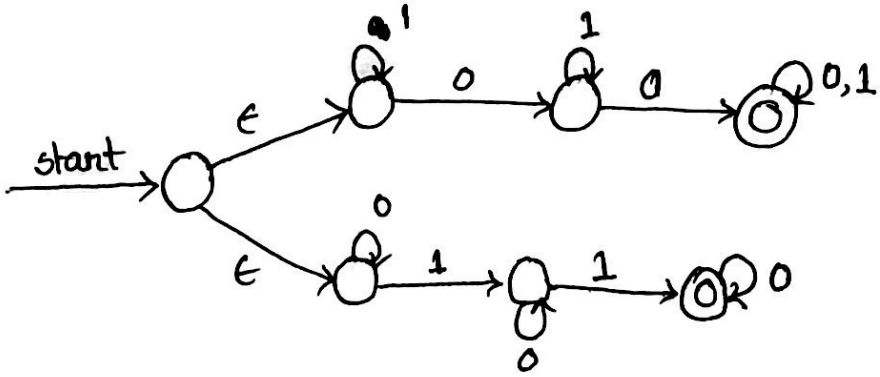
② Design a NFA that ends with 'ab'.



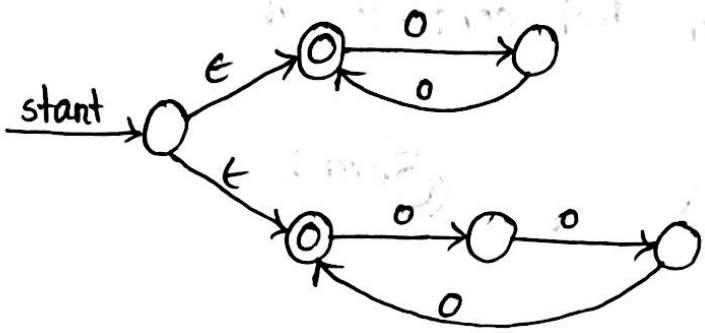
③ Design a NFA that starts with 'ba'



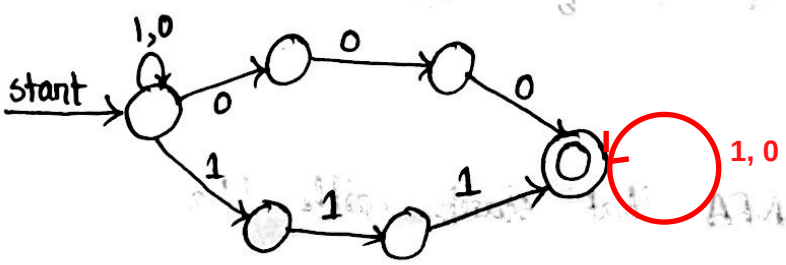
④ Design a NFA which contains at least two '0's or exactly two 1's.



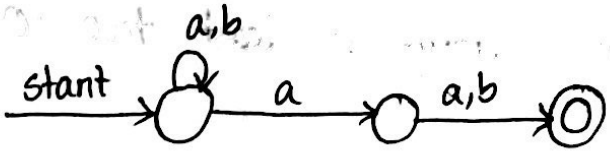
⑤ Design a NFA that accepts even number of 0's on number of 0's are divisible by 3.



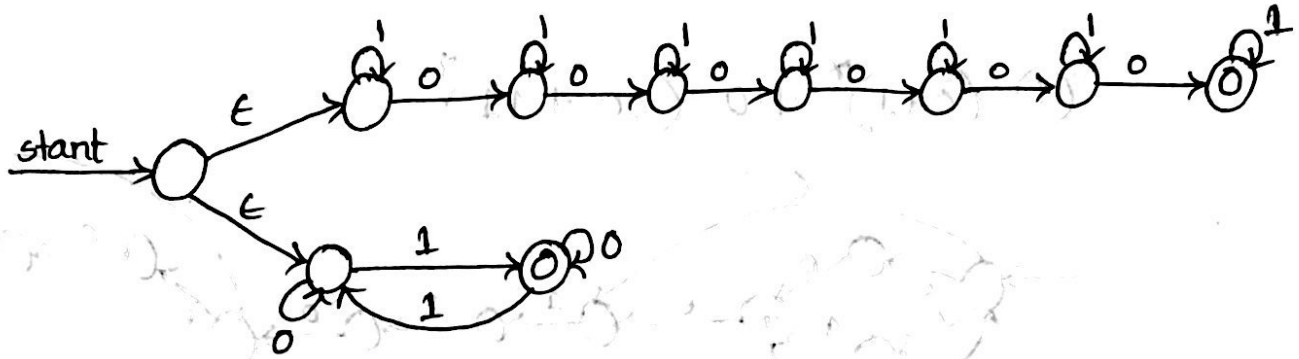
⑥ Design a NFA which contains '000' on '111'.



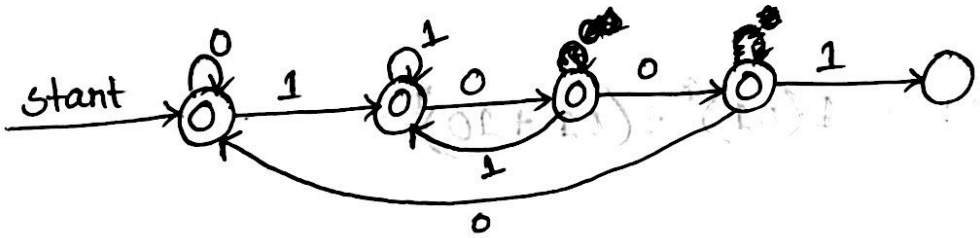
⑦ Design a NFA where the accepted strings have 'a' in the second symbol from the right hand side.



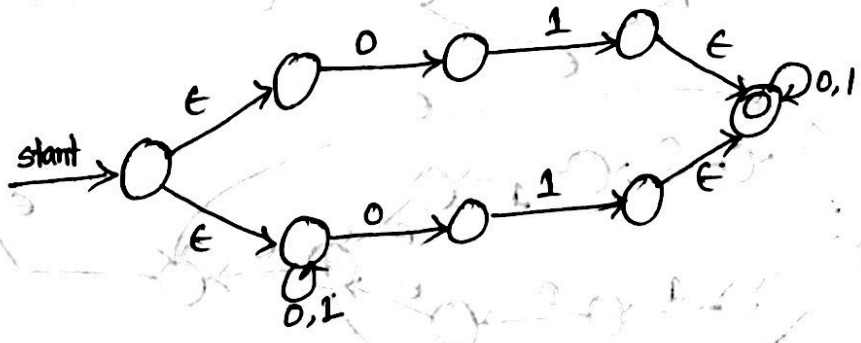
(8) Design a NFA where all strings contain exactly six 0's on an odd number of 1's



(9) Design NFA where the strings do not contain substring '1001'.

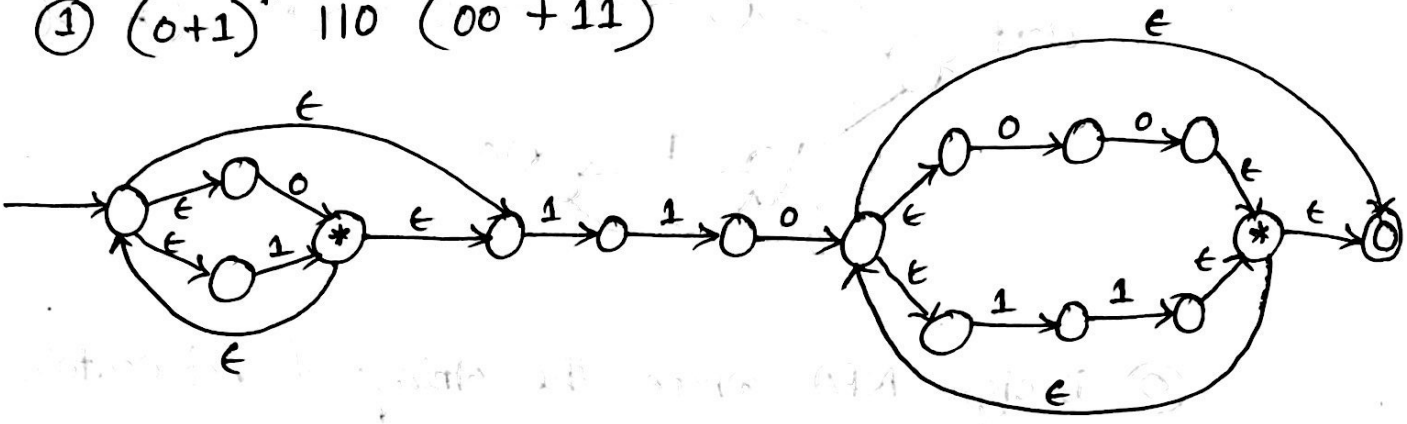


(10) Design NFA where the set of strings begin on end (on both) with 01.

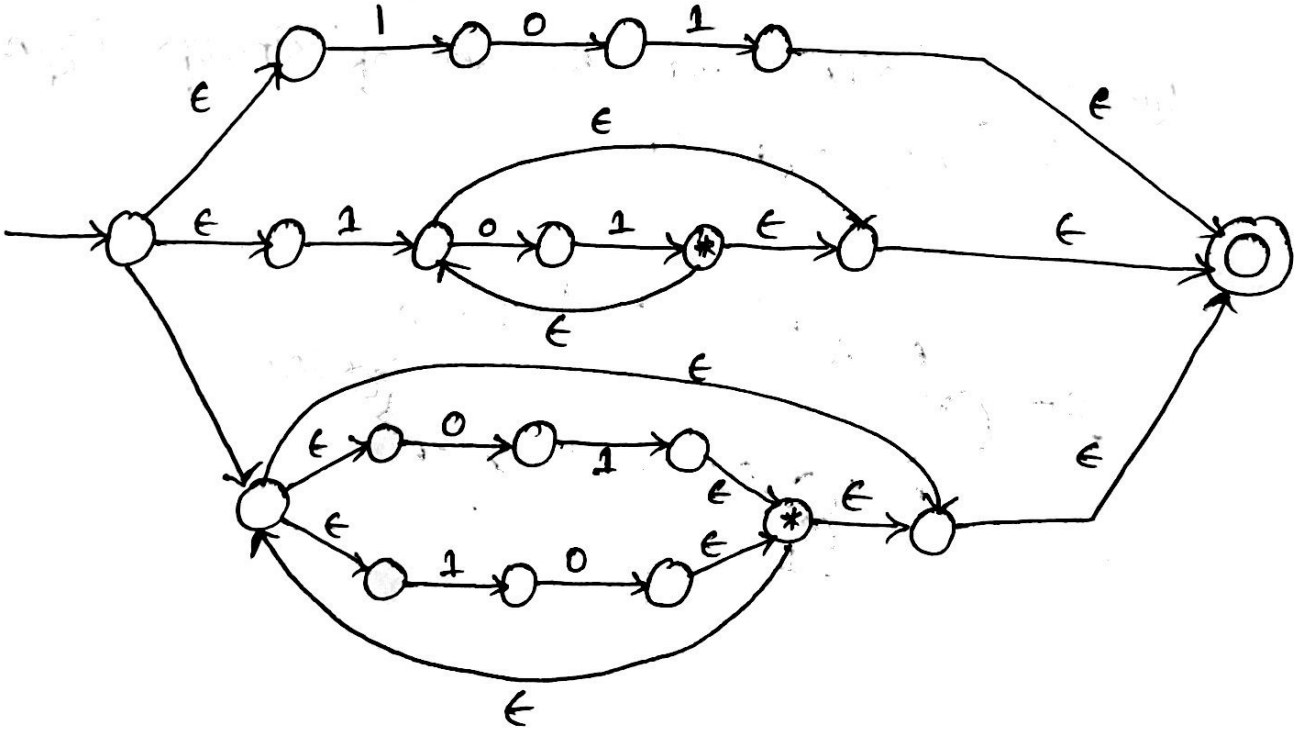


RE to NFA

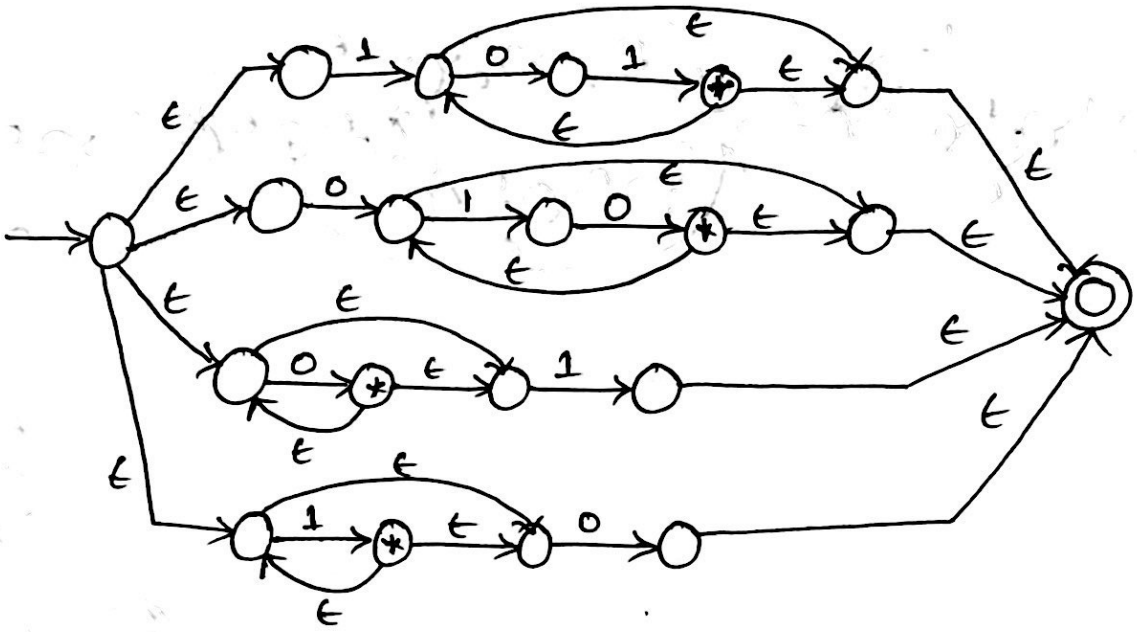
① $(0+1)^* 110 (00+11)^*$



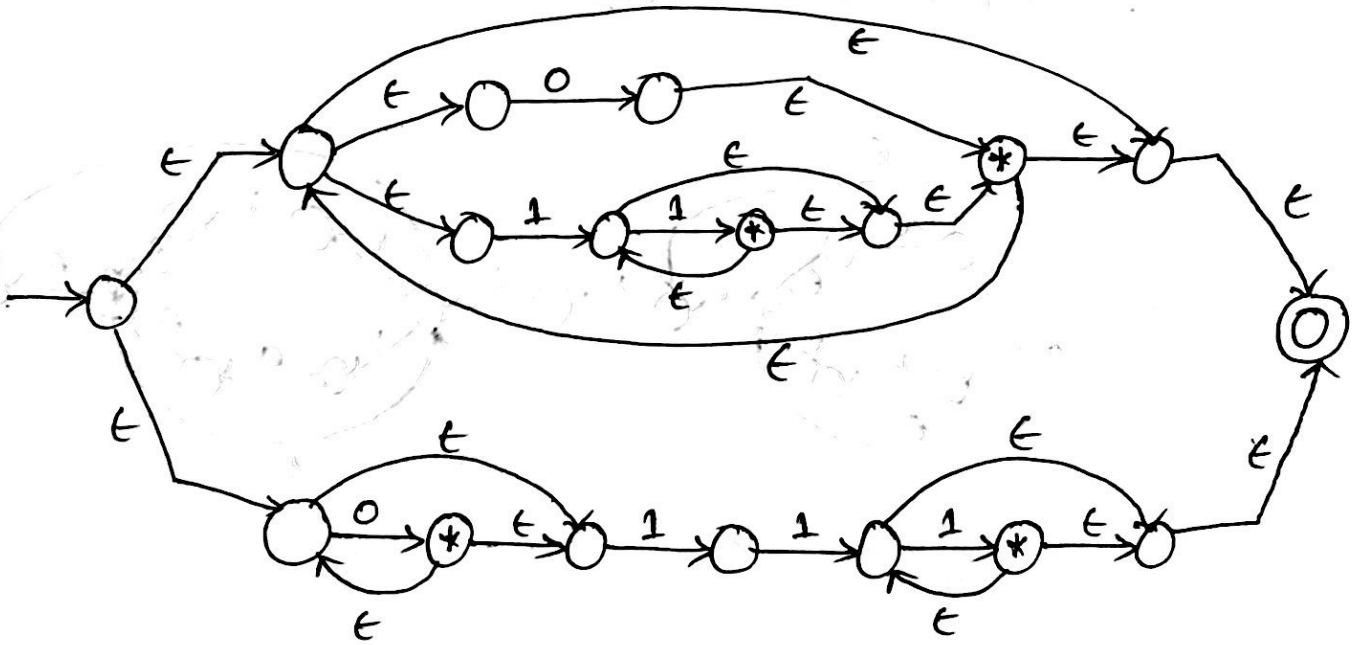
② $101 + 1(01)^* + (01+10)^*$



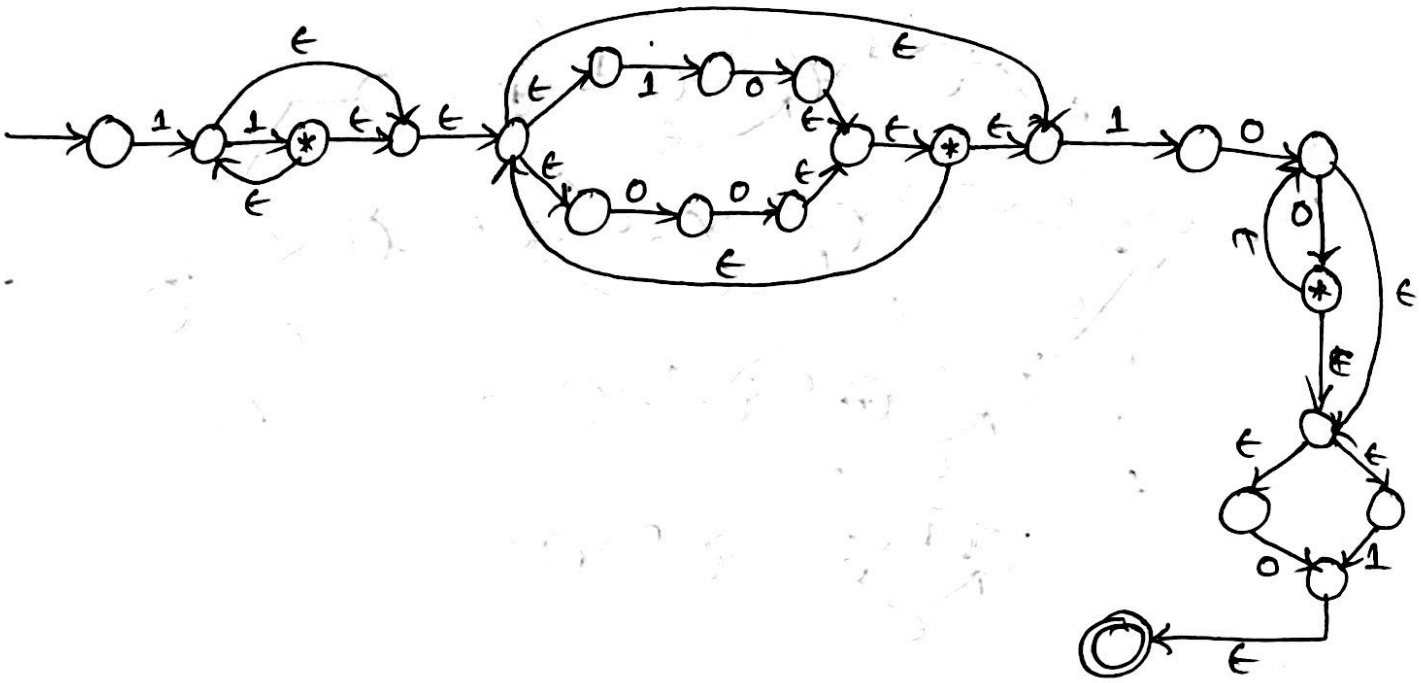
③ $1(01)^* + 0(10)^* + 0^*1 + 1^*0$



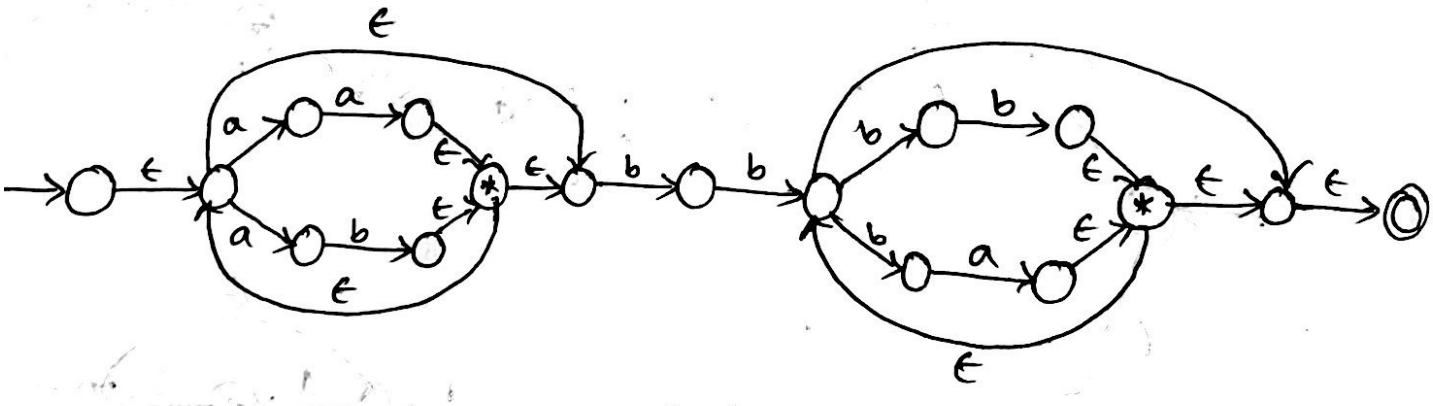
④ $(0+11^*)^* + 0^*11^*$



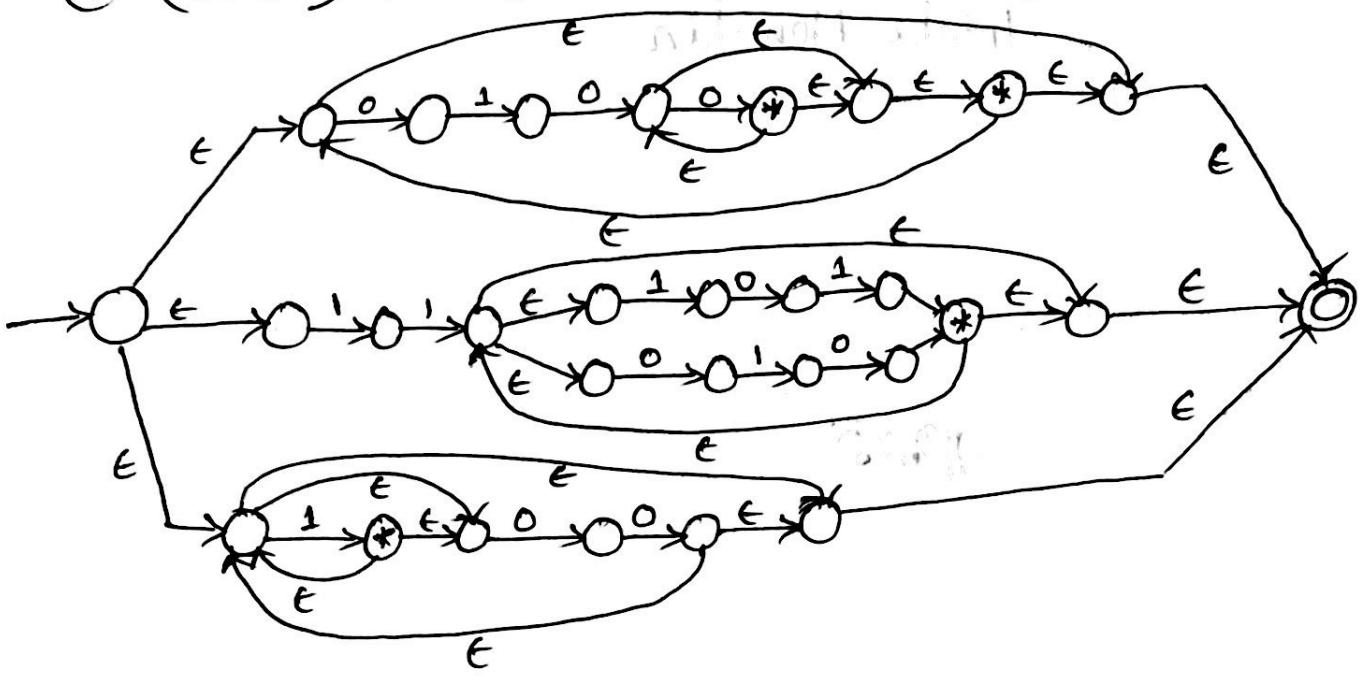
⑤ $11^*(10+00)^*\ 100^*(0+1)$



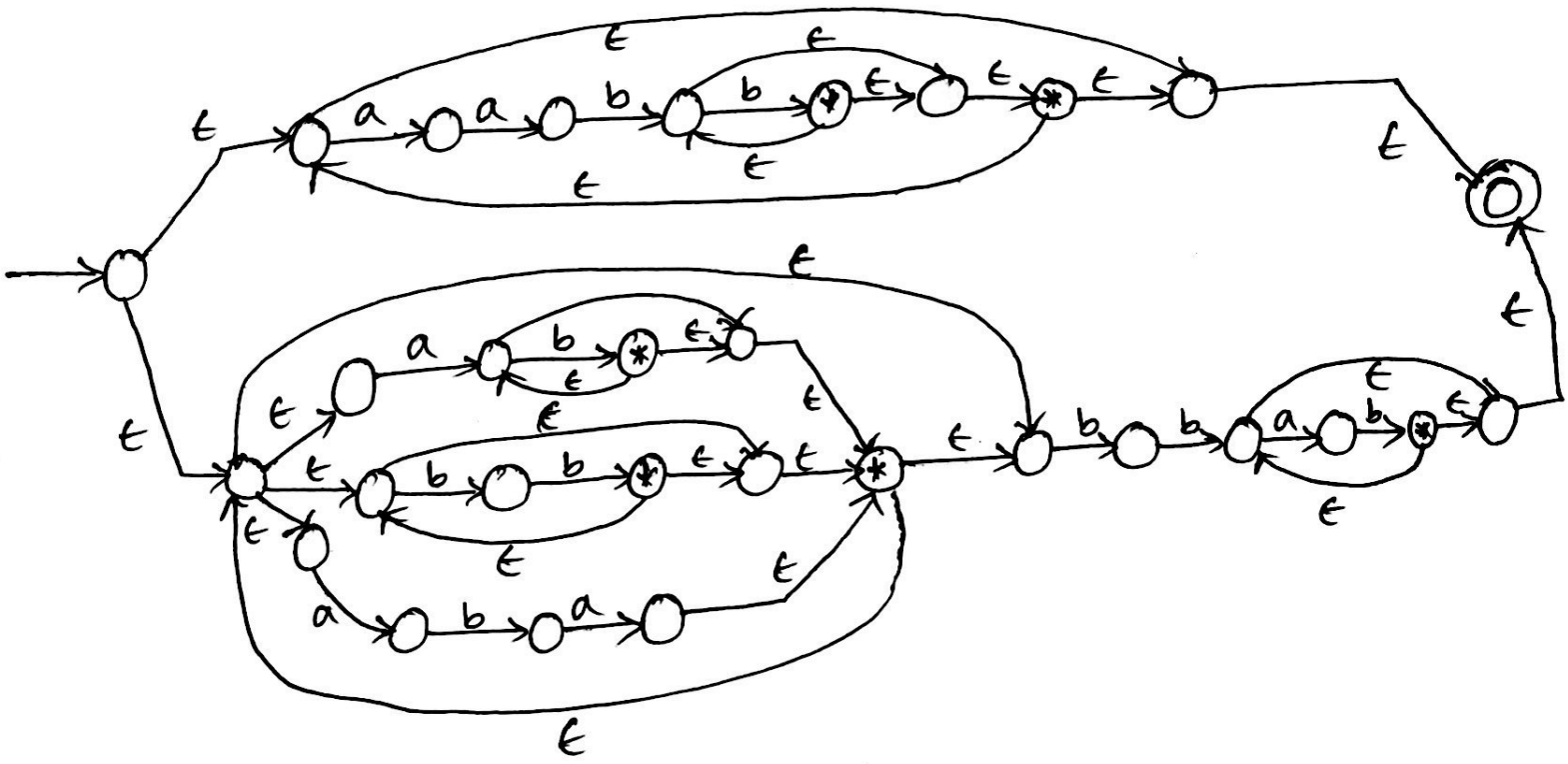
⑥ $(aa+ab)^*\ bb\ (bb+ba)^*$



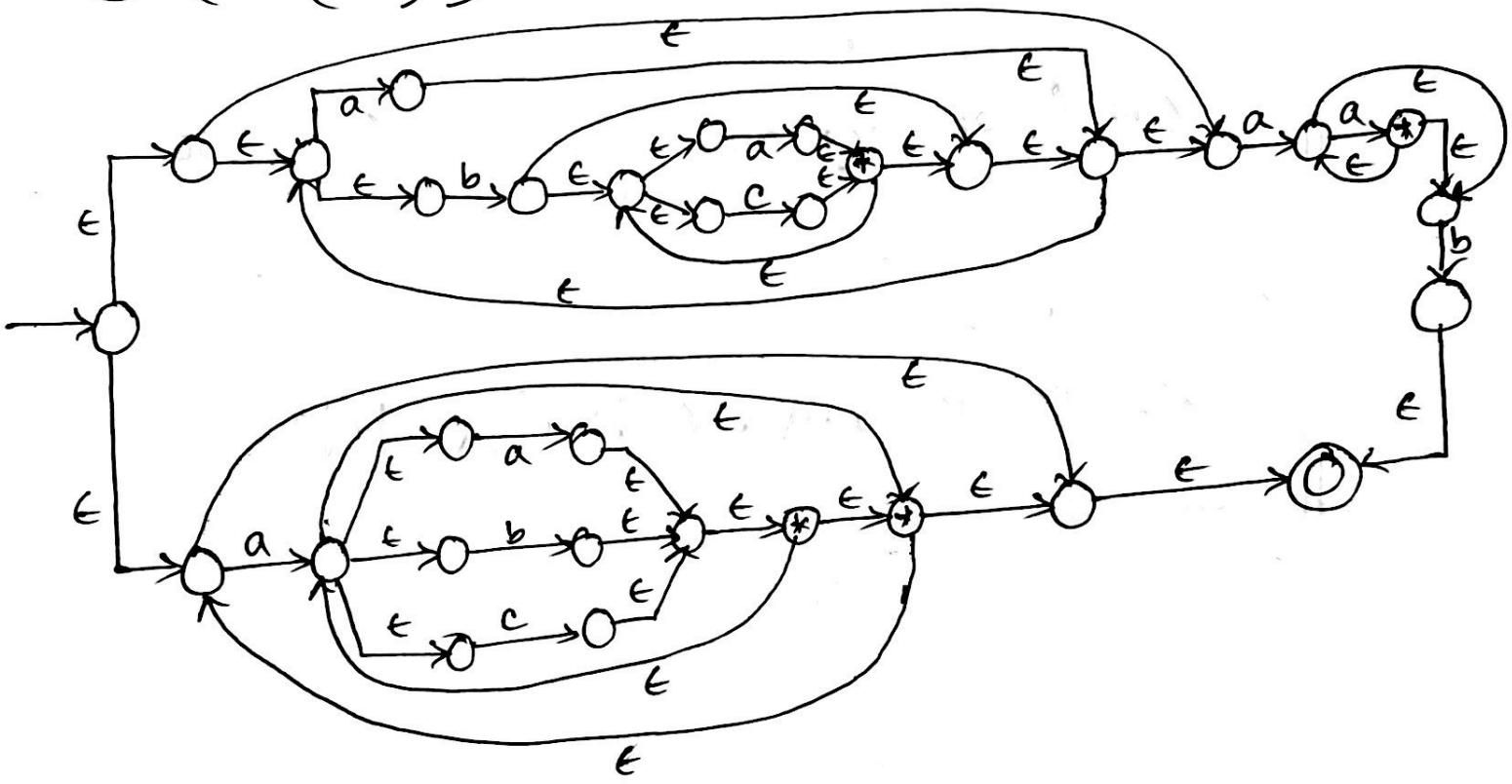
⑦ $(010^*)^* + 11(101 + 010)^* + (1^*00)^*$



⑧ $(aab^+)^* + (ab^* + (bb)^* + aba)^* \, bb(ab)^*$



⑨ $(a|b(a|c)^*)^*\ a^+b \mid (a(a|b|c)^*)^*$



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