RE to NFA

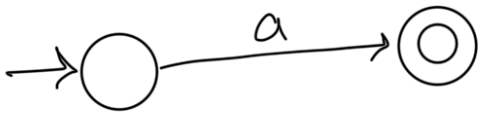
If a language is described by a regular expression, then it is regular.

→ NFA/DFA

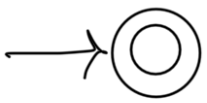
So, RE → NFA or DFA

1. $R = a$, for some a in the alphabets.

$$L(R) = \{a\}$$



2. $R = \epsilon$, $L(R) = \{\epsilon\}$



3. $R = \phi$ $L(R) = \phi$

4. $R = R_1 \cup R_2$

5. $R = R_1 \circ R_2$

6. $R = R_1^*$

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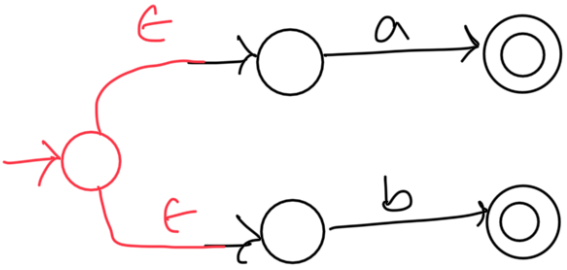
a

b

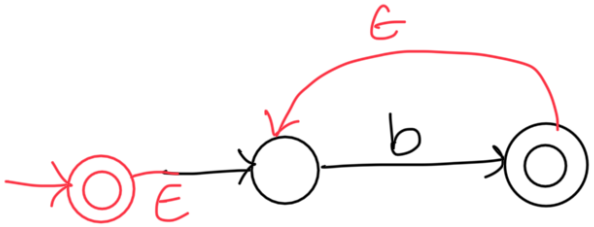
a ∪ b / a+b



ab

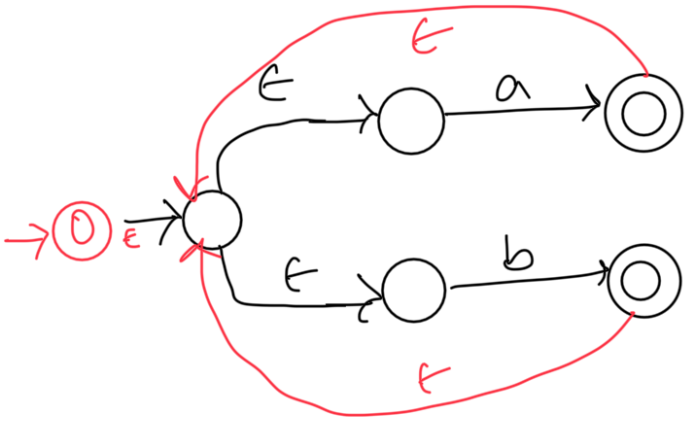
OR

b^*

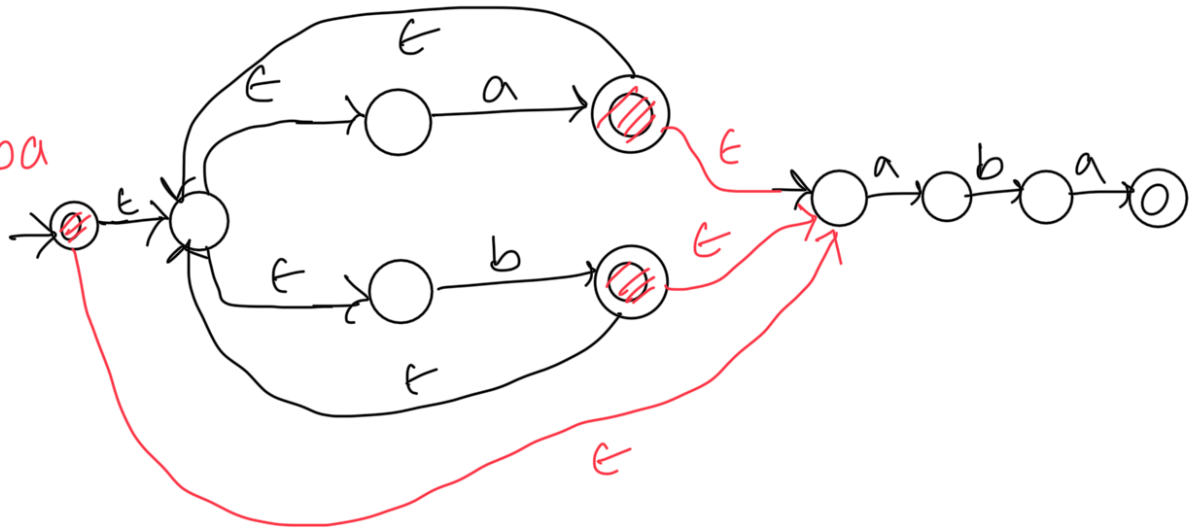


OR

$(a+b)^*$

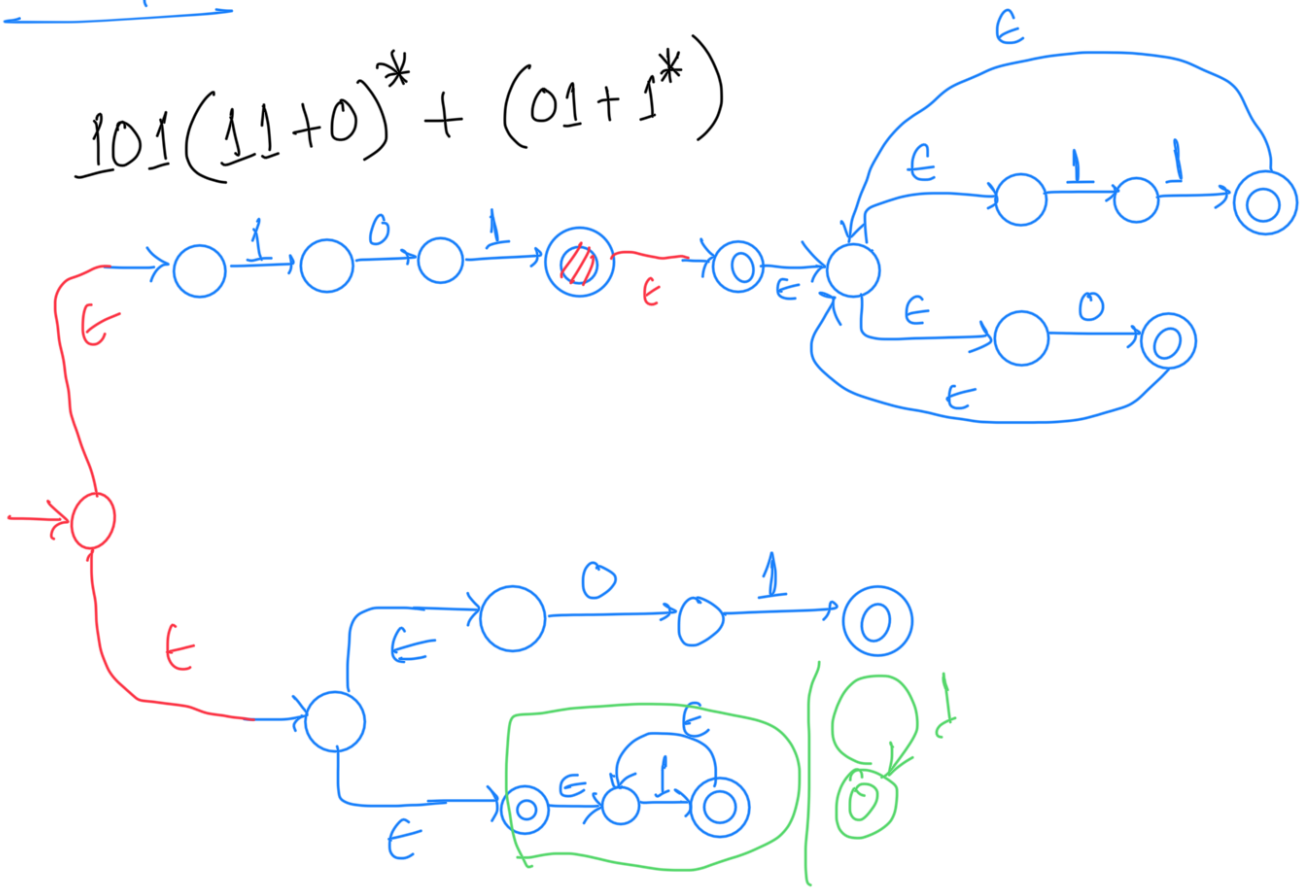


$(a+b)^*aba$



Example

$$\underline{1}0\underline{1}(\underline{1}\underline{1}+0)^* + (0\underline{1}+\underline{1}^*)$$



Practice

1. $(ab + ab^*a)^* bba + ba$
2. $(010 + 00^*)^*(1 + 011)^*$
3. $1 + 10^*1 + ((0+1)(00+11)^*)^*$