

equivalence of NFA and REs

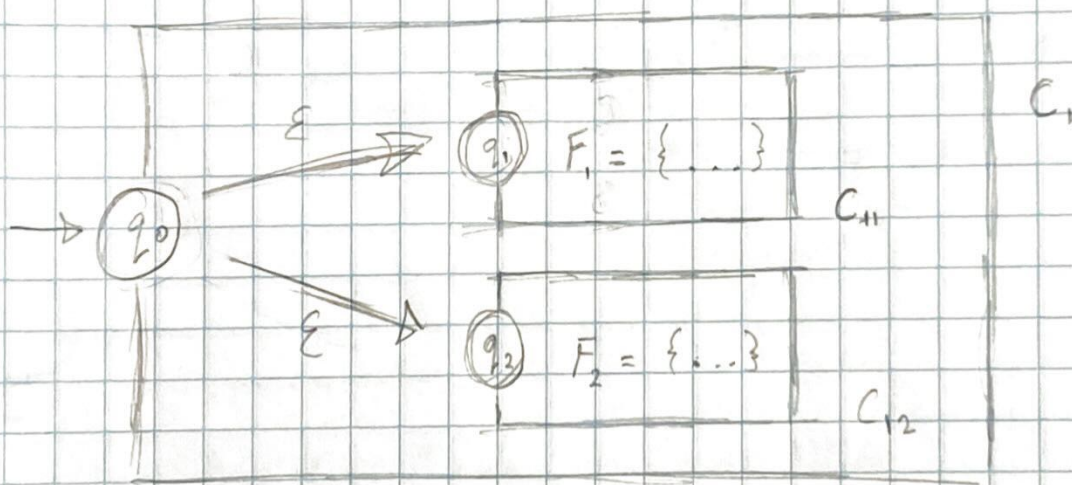
Lecture 8

Theorem a language is reg. iff. some reg. exp. desc. it.
i.e.

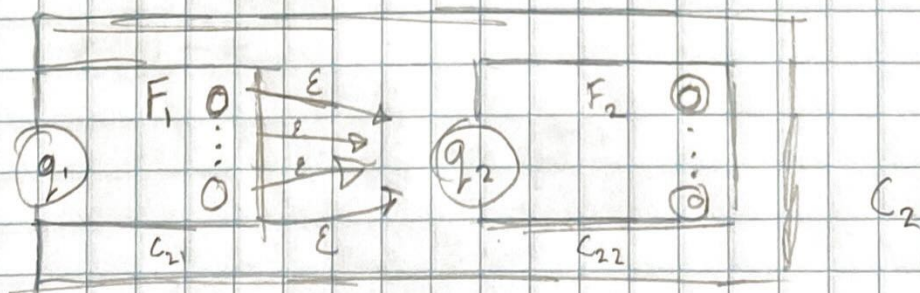
Kleene Theorem $L = L(N)$ for some NFA N iff $L = L(\alpha)$
for some RE α (aka $p \Leftrightarrow q$)

$q \Rightarrow p \sim$ construct an NFA $N = (Q, \Sigma, \delta, q_0, F)$ for a given reg. exp. α

> NFA C_1 constructed to recognize $A_1 \cup A_2$



> NFA C_2 constructed to recog. $A_1 \circ A_2$



> NFA C_3 const. to recog. A_1^*

