Lecture 28: Kleene's theorem

- if \( L \) is recognizable then \( L \) is regular

(If time permitting) review
Kleene's Theorem: the following are equivalent:

- \( L \) is DFA-rec.
- \( L \) is NFA-rec.
- \( L \) is regular.

![Diagram](image-url)
Gen NFA:

Reg NFA

Turning a gen. NFA to a RE:

1. convert to only 1 accept state
   - add a new accept state,
   - add ε transitions from old accept states

2. one-by-one: remove a state, replace with ε transitions

(expression)