

474 Instructor Notes from Day 8 slides:

Slide 4: Pattern Matching: Multiple Keywords

Note that states q4 and q8 could be combined. Also q5 and q9

Slide 11: Calculate $\text{eps}(q)$ for each state q

Try it on bbabc.

Slide 12: Simulating a NDFSM

Do it for the previous 8-state machine, with string bbabc

Slide 18: State minimization

It's not at all obvious whether it is minimal. We need tools!

Slide 20: Getting Rid of Redundant States

Reachable = {s}

Added = {s}

Repeat

new = {}

for s in added:

for a in Σ :

state = $\delta(s, a)$

if !(state in Reachable \cap new)

new.add(state)

added = new

Reachable.append (new)

Until added is empty

Slide 60: A Useful Lemma

It turns out that we will only need this lemma for the case where $q = s$, but the more general thing is easier to prove by induction. This is common in induction proofs.