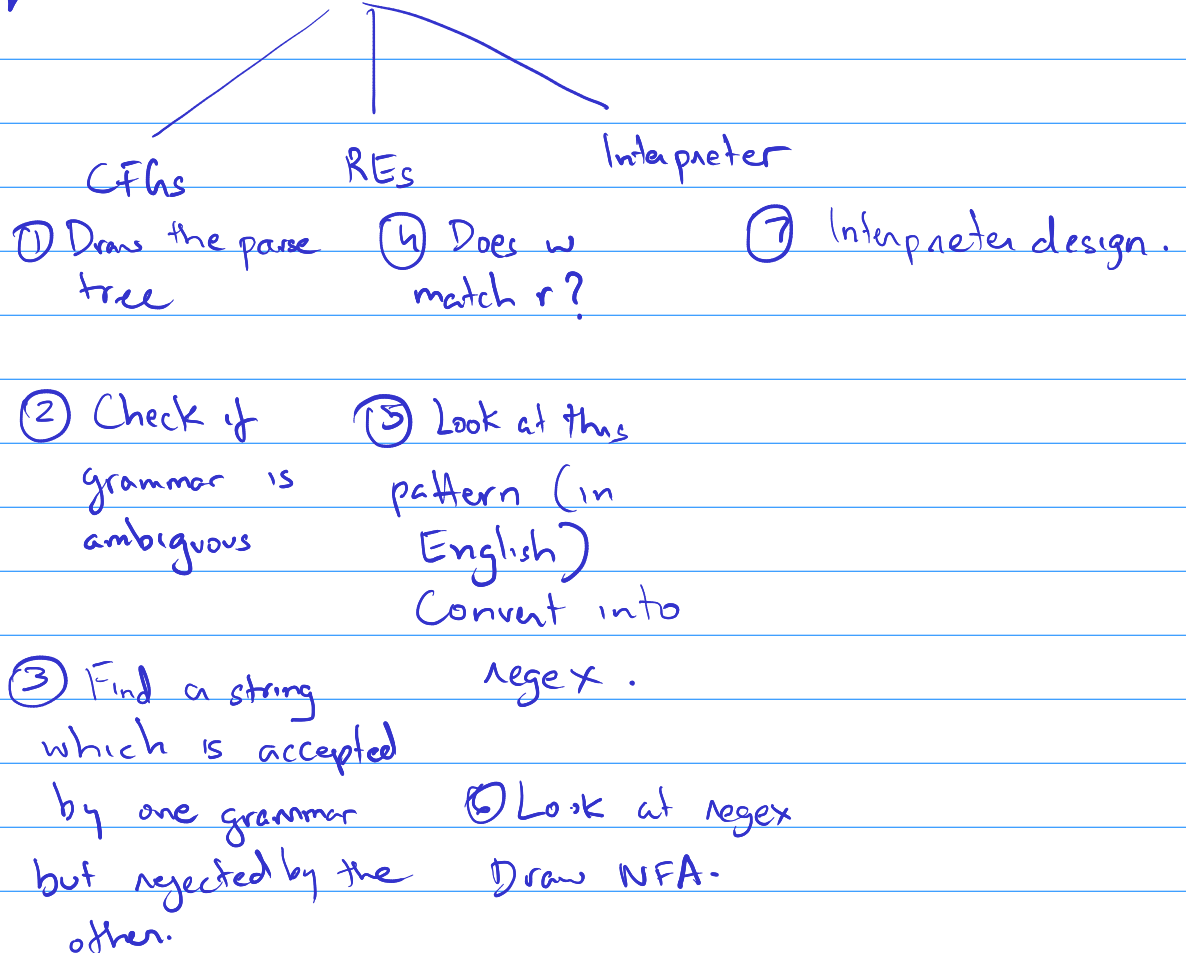


Announcement

- Unwise to have Quiz 2 next week
 - New plan: Nov 18.
-

9 questions — 7 + 2



Question : Given : String w

Regex r^*

Q: Does w match r^* ?

Claim ①: Regardless of r , ε matches r^* .

Claim 2: If $w = w_1 w_2$ & w_1 matches r

& w_2 matches r^*
 Prefix Suffix

then w matches r^* .

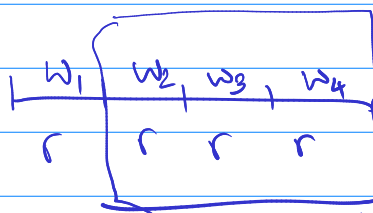
Linda the Bank Teller

Claim ③: If w matches r^*

win matches r

then (a) $\omega = \varepsilon$, or

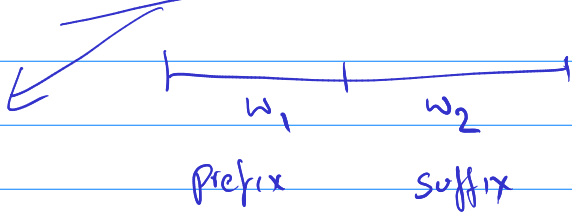
⑥ $w \neq \varepsilon$ and


$$w = w_1 w_{234} \text{ s.t. } w_1 \notin E \text{ \& } w_1 \sim r \text{ \& } w_{234} \sim r^*.$$

No money in account $\Rightarrow$ Bankrupt

No money in account $\Leftarrow$ Bankrupt

Claim ②: If $w = \overset{\varepsilon}{w_1} w_2$ & $\overset{\varepsilon}{w_1}$ matches r

$w = w_2$  & w_2 matches r^*
 w matches r^*

then w matches r^* .

Bad base case

Infinite recursion.

