

## New questions for EZQuiz 2

- Define nfa (you may assume the standard definition of dfa) (p49)
- Define  $\delta^*$  for an nfa (definition 2.5, p51)
- Define the language  $L$  accepted by an nfa, using math notation. (p53)  
Solution: If  $M = (Q, \Sigma, \delta, q_0, F)$ , then  $L(M) = \{w \in \Sigma^* : \delta^*(q_0, w) \cap F \neq \emptyset\}$
- Linz §2.2, Exercises 5 and 8.
- Define equivalence of finite acceptors (p56)
- Describe the procedure for converting an nfa to a dfa, using mathematically precise language.  
Solution: procedure nfa-to-dfa on p59.
- Linz Example 2.13, (p60-61).
- Linz §2.3, Exercise 11.
- Linz Examples 3.2-3.5 (p73-74).
- Linz §3.1, Exercises 6a, 16c, 20c.
- Linz §3.2, Exercises 3, 4a, 10b.
- State the relationship between regular expressions and regular languages.  
Solution: A language  $L$  is regular if and only if  $L = L(r)$  for some regular expression  $r$ .  
[This combines theorems 3.1 and 3.2].