**Definition**

A language is *regular* iff it is the set of strings accepted by some deterministic finite automaton.

**Kleene’s Theorem**

(a) *For any regular expression* \( r \), \( L(r) \) *is a regular language* (cf. Slide 8).

(b) *Conversely, every regular language is the form* \( L(r) \) *for some regular expression* \( r \).
NFAs for atomic regular expressions

just accepts the one-symbol string $a$

just accepts the null string, $\varepsilon$

accepts no strings
Set of accepting states is union of $\text{Accept}_{M_1}$ and $\text{Accept}_{M_2}$.
Set of accepting states is $\text{Accept}_{M_2}$. 
The only accepting state of $Star(M)$ is $q_0$. 