Exercises

1. Let $L_1 = \{ab, aba, abb\}$ and $L_2 = \{a^n\ b^m : n, m \geq 0\}$.

   Find $L_1 \cap L_2, L_1 \cup L_2$.

2. Let $L_1 = \{a^n : n \geq 0\}$ and $L_2 = \{b^n : n \geq 0\}$. Find

   $L_1 \cdot L_2$.

3. Let $L_1 = \{a^n b^n c^m : n, m \geq 0\}$ and $L_2 = \{a^n\ b^k c^k : n, k$

Exercises

Let $L = \{ab, aa, baa\}$.

1. Which strings are in L^2, L^3, and L^4?

2. Which of the following strings are in L^*: $abaabaaabaa$, $aaaabaaaa$, $baaaaabaaaaab$, $baaaaabaa$?

3. Let $\Sigma = \{a, b\}$ and $L = \{aa, bb\}$. Use set notation to describe $\bar{L}$.

Exercises

1. Show that $(w^R)^R = w$ for all $w \in \Sigma^*$.

2. Show that $(L_1 L_2)^R = L_2^R L_1^R$ for all languages L_1 and L_2.