

Grammar, regular grammar

1. Give a regular grammar that generates the language $L = \{\mathbf{a}, \mathbf{ab}, \mathbf{bbb}, \mathbf{ba}\}$
2. Let L be a finite language (it has finitely many strings)
 - (a) Prove that L can be generated by a grammar.
 - (b) Is it true that L can be generated by a regular grammar?
3. Let $\Sigma = \{0, 1\}$. Describe a regular grammar that generates the language of words of even length.
4. Describe a grammar that generates the language $L = \{\mathbf{a}^k \mathbf{b}^n \mathbf{c}^m : n = k + m, k \geq 1, m \geq 1\}$.