

Examples

Give context-free grammars for the following languages.

$$\{a^i \cdot b^j \cdot c^k \mid \text{either } i \neq j \text{ or } j \neq k\}.$$

$$\{a^i b^j \mid \text{either } i = j \text{ or } i = 2j\}.$$

$$\{x \mid x \neq w \cdot w, \text{ where } w \in \{a, b\}^*\}.$$

$$\{a^i \cdot b^j \cdot c^k \mid i = j + k\}.$$

The grammars of all the above languages and the correctness for the last one were discussed in class.