

CSE354 HOMEWORK 3

- 1) Construct a regular expression that denotes the language $\{x^i y^j : i + j \text{ is even}\}$
 - **You can use only less than 12 operators.** Operators are “*”, “.”, and “+”.
 - Parenthesis are not considered as operators so you can use it as much as you want
- 2) Design a context-free grammars for the language: $\{a^i b^j c^k \mid i \neq j \text{ or } j \neq k\}$ that is, the set of strings of a's followed by b's followed by c's, such that there are either a different number of a's and b's or a different number of b's and c's, or both.

Attention: Prepare and submit your homework with the given properties below. Otherwise your homework **will not be accepted**.

- Solution should be “pdf” format and solution with hand-writing **will not be accepted**. Thus, use an editor (word, latex or etc.) to write the solution and convert to pdf.
- Name your pdf file with the format: **Name_Surname_HwX** (Example Cagri_Yesil_hw3.pdf). Submit to coadsys.