

Github link:

→ https://github.com/Badetto/FLCD_Lab2 (In the folder "Lab_Teams")

Grammar:

Description: This class models a context-free grammar. It uses a list of non-terminals, terminals, a starting symbol, and a collection of productions to define a grammar. The class provides functionality to read a grammar from a file, print various components of the grammar, and check whether the grammar is context-free.

→ **ReadGrammarFromFile(filePath: string):** This function read the text file(from the given filePath) and initialize the private variables with the values from the text file. The text file has the following format: first row: non-terminals separated by a space; second row: terminals separated by a space; third row: the starting symbol; from the first row onwards: a production per row

→ **PrintNonTerminals():** Prints the non-terminal symbols of the grammar.

→ **PrintTerminals():** Prints the terminal symbols of the grammar.

→ **PrintStartingSymbol():** Prints the starting symbol of the grammar.

→ **PrintProductions():** Prints the production rules of the grammar.

→ **GetProductionsForNonTerminal(nonTerminal: string): HashSet<List<string>>:** Returns the set of production rules for a given non-terminal(key).

→ **IsCFG(): bool:** Checks if the grammar is a context-free grammar. A grammar is considered CFG if each production has exactly one non-terminal on the left-hand side.