

<https://github.com/DragosteSergiu/Facultate/blob/main/Lab5FLCD.py>

Class Rule is used to represent a production.

- It has two fields which are: 'left\_side' and 'right\_side'.
- The field 'left\_side' represents the left side of a production and it is a non-terminal.
- The field 'right\_side' represents the right side of a production and it is represented as a list of terminals and non-terminals.
- The class has getters and setters for its fields.
- The class overrides the '\_\_str\_\_()' and '\_\_eq\_\_()' methods.
- The class has the method 'add\_to\_right\_side()' which adds an element to the field 'right\_side'.

Class Grammar is used to represent the grammar.

- It has four fields which are: 'non\_terminals', 'terminals', 'productions', and 'start\_symbol'
- The fields 'non\_terminals' and 'terminals' are represented as a set of strings.
- The field 'productions' is represented as a list of Rules.
- The field 'start\_symbol' is represented as a string.
- The class has getters and setters for its fields.
- The values of the fields are read from the file using method 'read\_grammar()'.
- The sets are created using the method 'create\_sets()'.
- The values of the field 'productions' are created using the method 'create\_productions()'.
- The value of the field 'start\_symbol' is created using the method 'create\_start\_symbol()'.
- The class contains a method which checks if the grammar is a context free grammar.
- The class has the method 'insert\_rule()' which inserts a rule on a specified position.
- The class overrides the method '\_\_str\_\_()'