

Greco Narcis

GitHub:

<https://github.com/cs-ubbcluj-ro/lab-work-computer-science-2024-Greco-Narcis/tree/main/2-Finite-Automata>

The FiniteAutomata class represents a finite automaton initialized from a configuration file. It reads and stores the automaton's states, alphabet, start state, final states, and transitions. The `__init__()` method initializes the automaton by parsing the file, while the `__split_values()` static method is used to parse semicolon-separated values from the file. The `accepts_word()` method checks if a given word is accepted by the automaton by simulating its transitions based on the input. Transitions between states are represented by Transition objects.

```
non_zero_digit = 1|2| .. |9
digit = 0|1|..|9
number = non_zero_digit{digit}
letter = a|b|..|z|A|B..|Z
character = letter | digit
state = character{number}
```

```
firstLine = "states" "=" {state} {";" state}
secondLine = "alphabet" "=" {character} {";" character}
thirdLine = "start" "=" {state}
fourthLine = "final" "=" {state} {";" state}
```

```
triple = "(" {character} "," {character} "," {character} ")"
fifthLine = "transitions" "=" triple {";" triple}
```

```
inputFile = firstLine "\n" secondLine "\n" thirdLine "\n" fourthLine "\n" fifthLine
```