

Project repository : <https://github.com/SkyElit3/Lab3FLCD>

FiniteAutomator:

Domain : $F = \{ f \mid f \text{ is a finite automation class containing several } \text{Vector}\langle \text{string} \rangle : \text{states}, \text{alphabet}, \text{transitions}, \text{initialStates}, \text{finalStates} \}$

ScanFile(f , path) // the constructor

Pre: $f \in F$, path is a string

Post: file found at path is loaded into states , alphabet , transitions , initialStates and finalStates

Run(f): // function that runs the console menu, displays required text

Pre: $f \in F$, $f \rightarrow \text{ScanFile}()$ has been called at least once

Post: true

CheckWord(f , word):

Pre: $f \in F$, word is a string

Post: CheckWord <- true , if word can be formed with the given automata
false , otherwise

BNF FA.in formation :

identifier ::= letter | letter{letter}{digit}

letter ::= "A" | "B" | ... | "Z"

digit ::= "0" | "1" | ... | "9"

multipleIdentifier = identifier | multipleIdentifier identifier

multipleLetter = letter | multipleLetter letter

multipleTransition = identifier identifier identifier | multipleTransition
identifier identifier identifier

file ::= statesString alphabetString transitionsString initialStatesString
finalStatesString

```
states: q1 r
```

statesString ::= "states: " multipleIdentifier

```
alphabet: a b c d e f g h i j k l
```

alphabetString ::= "alphabet: " multipleLetter

```
transitions:
```

```
q1 a r
```

```
q1 b r
```

transitionsString ::= "transitions:" multipleTransition

```
initialstate: q1
```

initialStatesString ::= "initialstate:" identifier

```
finalstate: r
```

finalStatesString ::= "finalstate:" multipleIdentifier