

**GitHub link:** <https://github.com/RazvanAndreiLazar/FLCD>

\* FAs for identifiers and int constants are used

### **FiniteAutomata:**

#### Properties:

- alphabet
- states
- final\_states
- initial\_state
- transitions

#### Methods:

- **readFA(filename):** read the input file defining the FA's structure (the file must respect the EBNF structure)
- **verify(token):** verifies if the token respects the FA
  - start from the initial state
  - read letter by letter and check for the pair of (current state, letter) in the transition dictionary
  - update the current state if the pair exists
  - return false otherwise
  - after reading all the letters check if the current state is a final state and return result

### **EBNF Finite Automata files:**

FA := STATES "\n" ALPHABET "\n" INITIAL\_STATE "\n" FINAL\_STATES "\n" TRANSITIONS

STATES := "STATES:" STATE{"|" STATE}

STATE = letter{letter}

letter = "a" | "b" | ... | "z"

ALPHABET := "ALPHABET:" ELEMENT{"|" ELEMENT}

ELEMENT := any ASCII character

INITIAL\_STATE := "INITIAL\_STATE" STATE

FINAL\_STATES := "FINAL\_STATES" STATE{"|" STATE}

TRANSITIONS := TRANSITION {"|" TRANSITION}

TRANSITION := STATE " + " ELEMENT " -> " STATE