

State:

Class that represents a state, has

-> value: string

-> transitions: Dictionary of state -> transition value

FA stores the following values:

states: List of States

initial state: State

end states: List of States

transitions (Dictionary[(source state name, transition value)] = destination state), alphabet(list of strings) stored for faster access during printing

Verifying if FA is DSA:

if a state has transitions to multiple other states with the same transition value

Checking if a sequence is accepted by the FA:

- check if it's deterministic

- iterating over the sequences using the above graph data structure, if no transition found, then the sequence is not accepted

- check if the final state is in fact part of the final states. Otherwise the sequence is not accepted

input file is in the following ebnf form:

```
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
```

```
firstLine = "Q" "=" {character}
```

```
secondLine = "E" "=" {number}
```

```
thirdLine = "q0" "=" letter
```

```
fourthLine = "F" "=" {character}
```

```
triple = "(" {character} "," {character} ")" "->" {character}
```

```
fifthLine = "S" "=" {triple "\n"}
```

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