https://github.com/deniseealdea/flcd

Checking that the Finite Automata is a DFA (Deterministic Finite Automata) is done by going through all the keys and looking if there is any list with a length greater than one, because if any pair results in more than one state, then the FA is not deterministic.

Checking that a sequence is accepted by the Finite Automata is done by going through each symbol of the sequence and checking that the point we reach is a final state of our FA.

EBNF for the Finite Automata:

FA = STATES “\n” ALPHABET “\n” INITIAL_STATE “\n” FINAL_STATES “\n” TRANSITIONS
STATES = LETTER { “ ” LETTER }
LETTER = “a” | “b” | … | “z” | “A” | … | “Z”
ALPHABET = ELEMENT { “ ” ELEMENT }
ELEMENT = “-” | “+” | LETTER | DIGIT
DIGIT = “0” | “1” | … | “9”
INITIAL_STATE = LETTER
FINAL_STATES = LETTER { “ ” LETTER }
TRANSITIONS = TRANSITION { “\n” TRANSITION }
TRANSITION = “(” LETTER “,” ELEMENT “) => ” LETTER