github:
https://github.com/Robert410/Formal-Languages-and-Compiler-Design/tree/main/Lab3

I will have 4 files. The main will just call the menu where i will have the interactive menu with all the requirements for displaying everything. The utils file will include just the function for reading from file the FA and converting the result.
The FA file will be the one with the most important functions. to check if its a dfa or not and will check a sequence if its accepted or not depends on the FA.

A DFA:

```
Q = A B C
E = 0 1
q0 = A
F = A C
S =
      (A,0) ⇒ A
      (A,1) ⇒ C
      (B,0) ⇒ B
      (C,1) ⇒ B
```

Checking that a sequence is accepted by the Finite Automata is done by going through each symbol from the given sequence and checking that the respective point can be reached in the corresponding graph.

Talking about EBNF in FA, we will have:

FA = STATES “\n” ALPHABET “\n” INITIAL_STATE “\n” FINAL_STATE “\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