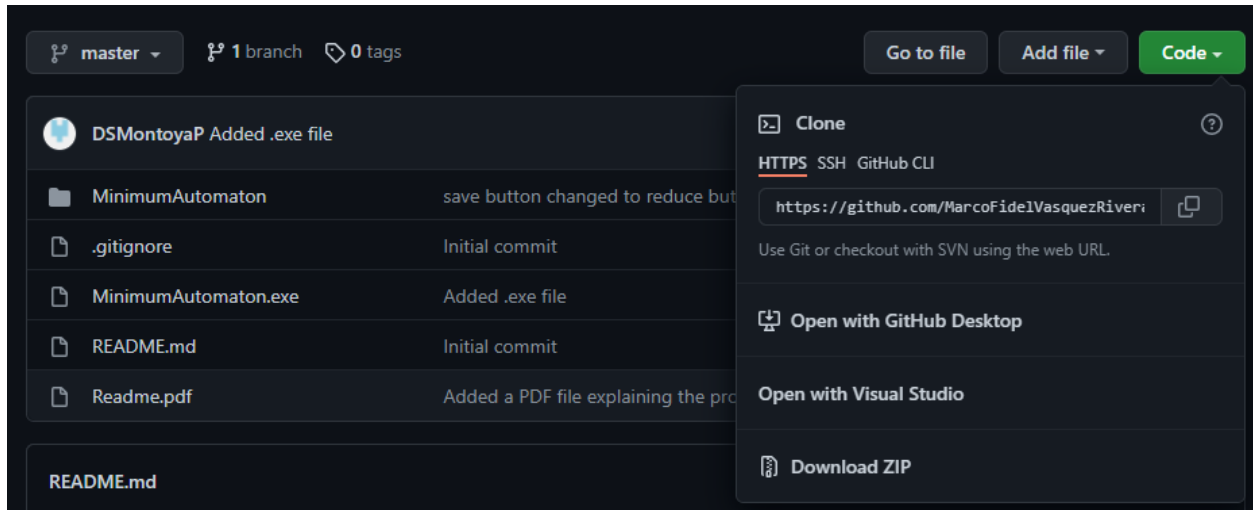


AUTOMATA MINIMIZATION

Step 1: Download the program as a ZIP from <https://github.com/MarcoFidelVasquezRivera/automaton-minimization> and run it on your IDE of choice or use the .exe file.



Step 2: Select your machine type and fill the number of states(rows) and the number of letters on the alphabet, if your machine is a Moore Machine a column for outputs will be automatically added.

A screenshot of a Windows application window titled 'Form1'. The window contains a form titled 'AUTOMATA REDUCTION'. The form has two radio buttons under the label 'Machine Type': 'Mealy' and 'Moore'. To the right of these is a text input field labeled 'Number of states'. Below these is another text input field labeled 'Alphabet length'. At the bottom center of the form is a 'Confirm' button.

Form1

AUTOMATA REDUCTION

Machine Type

☐ Mealy

☒ Moore

Number of states

Alphabet length

Confirm

Moore Machine example:

Step 3: Fill the table with each transition and output of the automata, the names of the states are editable, however, the transitions must lead to an already defined state.

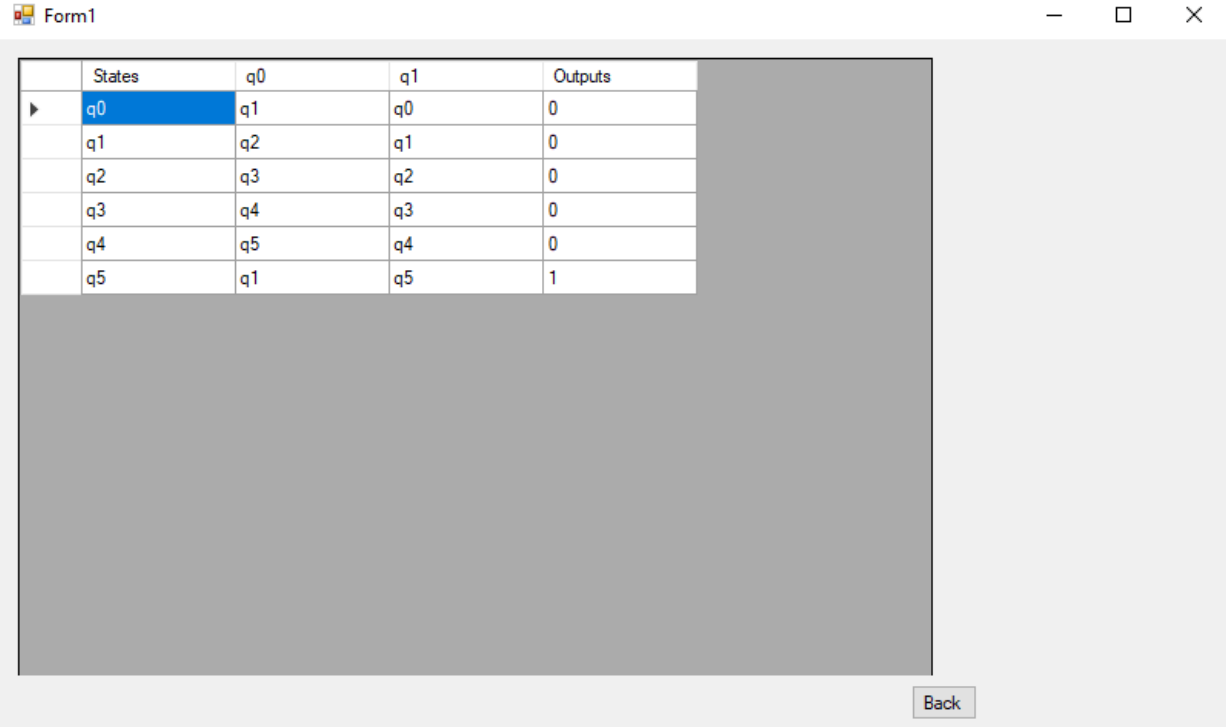
Form1

States	A	B	Outputs
A	B	A	0
B	C	B	0
C	D	C	0
D	E	D	0
E	F	E	0
F	B	F	1

Reduce

Back

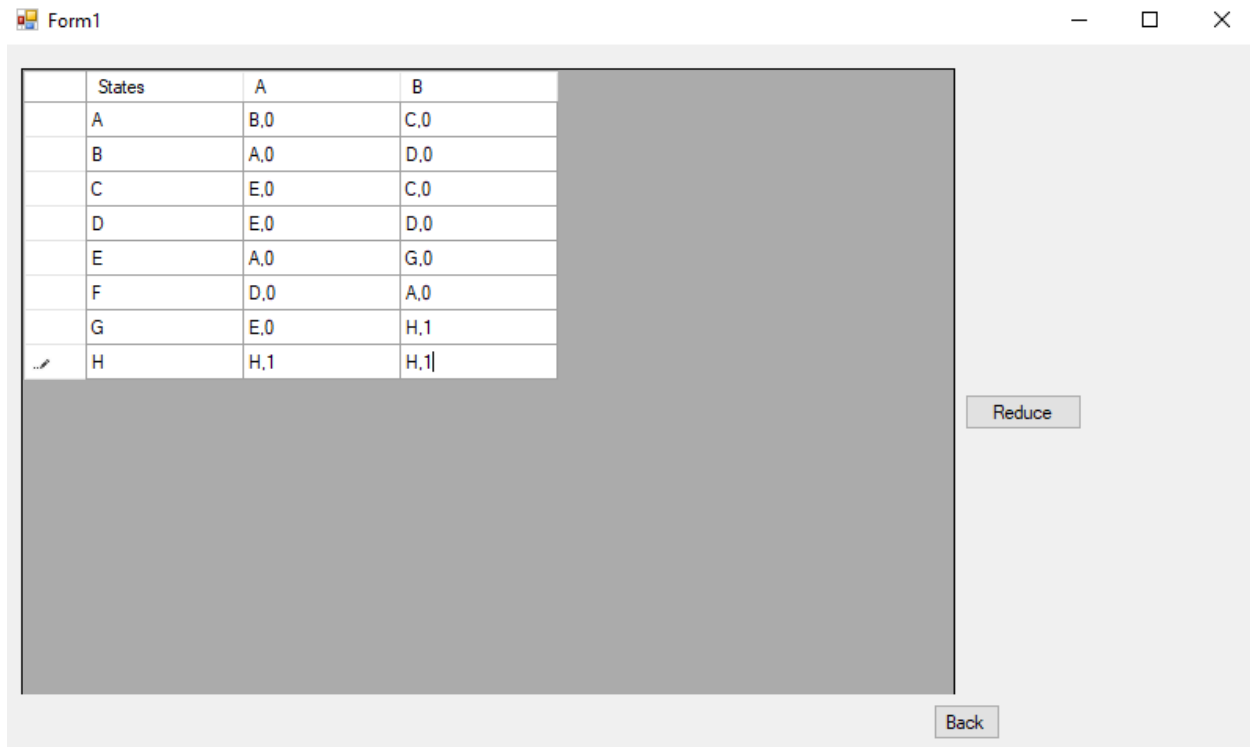
Step 4: Once done filling the table, press the “reduce” button to get the machine’s corresponding minimum equivalent.



States	q0	q1	Outputs
q0	q1	q0	0
q1	q2	q1	0
q2	q3	q2	0
q3	q4	q3	0
q4	q5	q4	0
q5	q1	q5	1

Mealy Machine example:

Step 3: Fill the table with each transition of the automata, the names of the states are editable, however, the transitions must lead to an already defined state. Remember that a Mealy Machine has its outputs in the same cell as the transition, this program accepts the nomenclature of stateName,Output (IE: A,0)



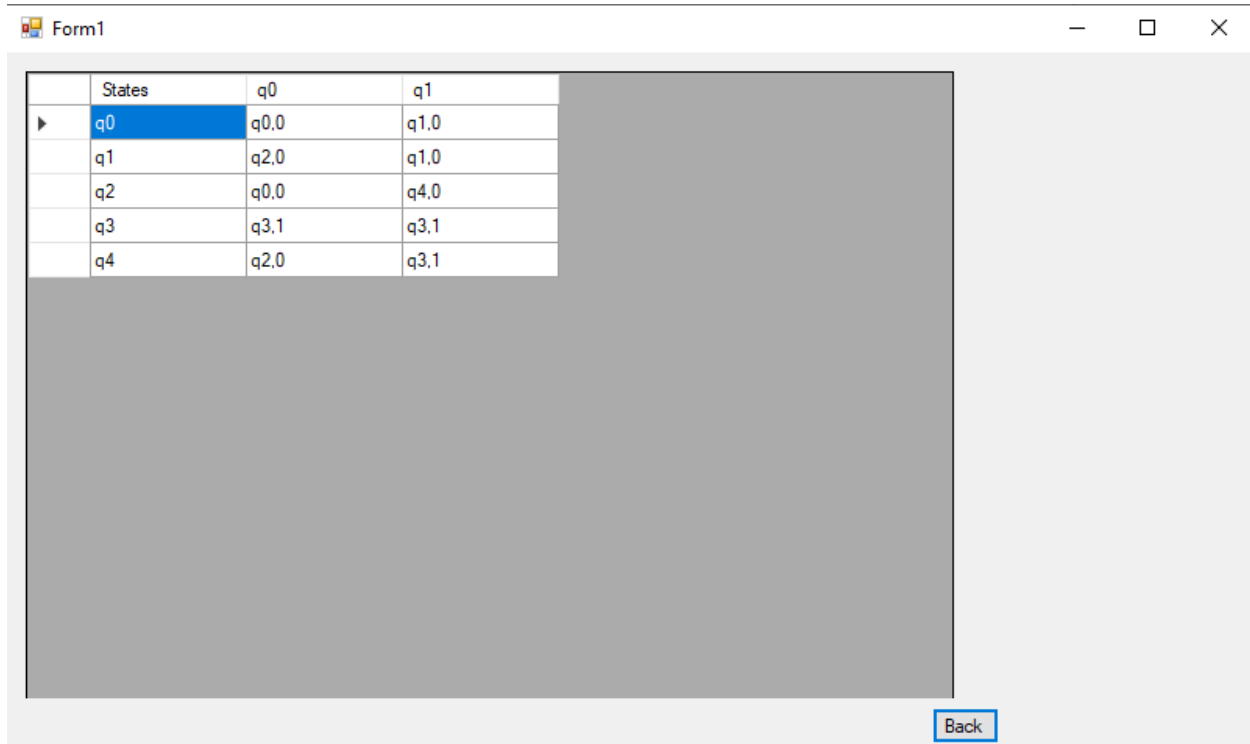
Form1

	States	A	B
	A	B,0	C,0
	B	A,0	D,0
	C	E,0	C,0
	D	E,0	D,0
	E	A,0	G,0
	F	D,0	A,0
	G	E,0	H,1
...	H	H,1	H,1

Reduce

Back

Step 4: Once done filling the table, press the “reduce” button to get the machine’s corresponding minimum equivalent.



Form1

	States	q0	q1
▶	q0	q0,0	q1,0
	q1	q2,0	q1,0
	q2	q0,0	q4,0
	q3	q3,1	q3,1
	q4	q2,0	q3,1

Back