AUTOMATA PROGRAMMING

DFA

#1st

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1', 'q2', 'q3'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q1', '1': 'q0'},

'q1': {'0': 'q2', '1': 'q0'},

'q2': {'0': 'q2', '1': 'q3'},

'q3': {'0': 'q3', '1': 'q3'}

},

initial\_state='q0',

final\_states={'q3'}

)

for i in range(1,4):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#2nd

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1', 'q2'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q0', '1': 'q1'},

'q1': {'0': 'q1', '1': 'q2'},

'q2': {'0': 'q2', '1': 'q1'}

},

initial\_state='q0',

final\_states={'q2'}

)

for i in range(1,4):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#3rd

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q0', '1': 'q0'}

},

initial\_state='q0',

final\_states={'q0'}

)

for i in range(1,8):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#4th

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1', 'q2', 'q3', 'q4', 'q5'},

input\_symbols={'a', 'b'},

transitions={

'q0': {'a': 'q1', 'b': 'q5'},

'q1': {'a': 'q2', 'b': 'q5'},

'q2': {'a': 'q3', 'b': 'q4'},

'q3': {'a': 'q2', 'b': 'q5'},

'q4': {'a': 'q5', 'b': 'q5'},

'q5': {'a': 'q5', 'b': 'q5'}

},

initial\_state='q0',

final\_states={'q1', 'q4'}

)

for i in range(1,6):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#5th

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1', 'q2', 'q3'},

input\_symbols={'a', 'b'},

transitions={

'q0': {'a': 'q1', 'b': 'q3'},

'q1': {'a': 'q3', 'b': 'q2'},

'q2': {'a': 'q1', 'b': 'q3'},

'q3': {'a': 'q3', 'b': 'q3'}

},

initial\_state='q0',

final\_states={'q2'}

)

for i in range(1,6):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#6.1

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q0', '1': 'q0'},

'q1': {'0': 'q1', '1': 'q1'}

},

initial\_state='q0',

final\_states={'q1'}

)

for i in range(1,8):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#6.2

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q1', '1': 'q1'},

'q1': {'0': 'q1', '1': 'q1'}

},

initial\_state='q0',

final\_states={'q0'}

)

for i in range(1,6):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#6.3

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q0', '1': 'q0'}

},

initial\_state='q0',

final\_states={'q0'}

)

for i in range(1,8):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")

#6.4

from automata.fa.dfa import DFA

dfa = DFA(

states={'q0', 'q1'},

input\_symbols={'0', '1'},

transitions={

'q0': {'0': 'q1', '1': 'q1'},

'q1': {'0': 'q1', '1': 'q1'}

},

initial\_state='q0',

final\_states={'q1'}

)

for i in range(1,8):

num = input("Enter the string :")

if(dfa.accepts\_input(num)):

print("Accepted")

else:

print("Rejected")





