Finite State Automaton #1

numStates 10

final states [0, 1, 2, 3, 4, 5, 6, 7, 8]

alphabet [0, 1]

Transitions

(0 0 1)

(0 1 5)

(1 0 2)

(1 1 5)

(2 0 9)

(2 1 3)

(3 0 2)

(3 1 4)

(4 0 8)

(4 1 9)

(5 0 1)

(5 1 6)

(6 0 7)

(6 1 9)

(7 0 8)

(7 1 6)

(8 0 9)

(8 1 4)

(9 0 9)

(9 1 9)

Strings:

empty Set accept

00 accept

0011 accept

110011 reject

010101 accept

000 reject

00102 reject

1100101 accept

10110100101 accept

1001011010110 reject

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Finite State Automaton #2

numStates 8

final states [4, 5, 6]

alphabet [a%z, A%Z, 0%9, -, \_, ., @]

Transitions

(0 - 0)

(0 . 0)

(0 0%9 0)

(0 @ 1)

(0 A%Z 0)

(0 \_ 0)

(0 a%z 0)

(1 - 1)

(1 . 2)

(1 0%9 1)

(1 @ 7)

(1 A%Z 1)

(1 \_ 1)

(1 a%z 1)

(2 - 7)

(2 . 7)

(2 0%9 7)

(2 @ 7)

(2 A%Z 3)

(2 \_ 7)

(2 a%z 3)

(3 - 7)

(3 . 7)

(3 0%9 7)

(3 @ 7)

(3 A%Z 4)

(3 \_ 7)

(3 a%z 4)

(4 - 7)

(4 . 7)

(4 0%9 7)

(4 @ 7)

(4 A%Z 5)

(4 \_ 7)

(4 a%z 5)

(5 - 7)

(5 . 7)

(5 0%9 7)

(5 @ 7)

(5 A%Z 6)

(5 \_ 7)

(5 a%z 6)

(6 - 7)

(6 . 7)

(6 0%9 7)

(6 @ 7)

(6 A%Z 7)

(6 \_ 7)

(6 a%z 7)

(7 - 7)

(7 . 7)

(7 0%9 7)

(7 @ 7)

(7 A%Z 7)

(7 \_ 7)

(7 a%z 7)

Strings:

a.b.c@d.w3c reject

jsmith reject

jsmith@olympus reject

jsmith@olympus.gov accept

\_jsmith-example.olympus@states.us accept

jsmith.edu reject

john@mail.office reject

ComputerScienceDepartment@csupomona.edu accept

jsmith@LA.cnn.com reject

SMITH@bookStore.Peru accept

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Finite State Automaton #3

numStates 4

final states [1, 2]

alphabet [a%z, A%Z, \_, $, 0%9]

Transitions

(0 $ 1)

(0 0%9 3)

(0 A%Z 1)

(0 \_ 1)

(0 a%z 1)

(1 $ 2)

(1 0%9 2)

(1 A%Z 2)

(1 \_ 2)

(1 a%z 2)

(2 $ 2)

(2 0%9 2)

(2 A%Z 2)

(2 \_ 2)

(2 a%z 2)

(3 $ 3)

(3 0%9 3)

(3 A%Z 3)

(3 \_ 3)

(3 a%z 3)

Strings:

a accept

$ accept

\_ accept

TAX\_RATE accept

$amount accept

week day reject

3dGraph reject

X3y7 accept

\_finite\_automaton accept

X\*Y reject

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Finite State Automaton #4

numStates 11

final states [5, 6, 7]

alphabet [0, 1%9, +, -, .]

Transitions

(0 + 1)

(0 - 1)

(0 . 4)

(0 0 3)

(0 1%9 2)

(1 + 10)

(1 - 10)

(1 . 4)

(1 0 3)

(1 1%9 2)

(1 0 + 10)

(1 0 - 10)

(1 0 . 10)

(1 0 0 10)

(1 0 1%9 10)

(2 + 10)

(2 - 10)

(2 . 5)

(2 0 2)

(2 1%9 2)

(3 + 10)

(3 - 10)

(3 . 5)

(3 0 10)

(3 1%9 10)

(4 + 10)

(4 - 10)

(4 . 10)

(4 0 6)

(4 1%9 7)

(5 + 10)

(5 - 10)

(5 . 10)

(5 0 6)

(5 1%9 7)

(6 + 10)

(6 - 10)

(6 . 10)

(6 0 9)

(6 1%9 7)

(7 + 10)

(7 - 10)

(7 . 10)

(7 0 8)

(7 1%9 7)

(8 + 10)

(8 - 10)

(8 . 10)

(8 0 8)

(8 1%9 7)

(9 + 10)

(9 - 10)

(9 . 10)

(9 0 9)

(9 1%9 7)

Strings:

+1.23 accept

-.123 accept

123. accept

-0.0 accept

01234.5 reject

+789 reject

. reject

56.30 reject

+120.0001 accept

123000.0 accept

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Finite State Automaton #5

numStates 15

final states [1, 2, 3, 7, 8, 9, 13]

alphabet [0, 1, 2]

Transitions

(0 0 3)

(0 1 2)

(0 2 1)

(1 0 8)

(1 1 7)

(1 2 4)

(1 0 0 13)

(1 0 1 10)

(1 0 2 10)

(1 1 0 11)

(1 1 1 13)

(1 1 2 11)

(1 2 0 12)

(1 2 1 12)

(1 2 2 13)

(1 3 0 14)

(1 3 1 14)

(1 3 2 14)

(1 4 0 14)

(1 4 1 14)

(1 4 2 14)

(2 0 9)

(2 1 5)

(2 2 7)

(3 0 6)

(3 1 9)

(3 2 8)

(4 0 8)

(4 1 7)

(4 2 4)

(5 0 9)

(5 1 5)

(5 2 7)

(6 0 6)

(6 1 9)

(6 2 8)

(7 0 13)

(7 1 10)

(7 2 10)

(8 0 11)

(8 1 13)

(8 2 11)

(9 0 12)

(9 1 12)

(9 2 13)

Strings:

0 accept

01 accept

012 accept

22 reject

2102 reject

0221 accept

01012 accept

120120 reject

110221210 reject

0202321 reject

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