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Zadanie 3 - Program na ocenę dobrą

∑ = {0, 1}
q0 = q0
Q = {q0, q1, q2, q3, q4}
A = {q1}
δ = Γ x Q -> Q x Γ x {L, R}

Tablica przejść (symbole są analizowane od prawej do lewej):

	0	1	θ
q0	q3, 1, L	q2, 0, L	-, -, -
q1	q1, 0, L	q1, 1, L	-, -, -
q2	q4, 0, L	q4, 1, L	-, -, -
q3	q1, 1, L	q4, 0, L	-, -, -
q4	q1, 1, L	q4, 0, L	q1, 1, -

Sprawdzenie poprawności działania (rezultaty drukowane przez program w języku angielskim):

1. 1111111 -> 10000010

Input binary number (without θ): 1111111

Starting tape value: θ1111111

Current state: 0, alphabet value: 1, next state: 2, value to write: 0, tape movement: L

Current state: 2, alphabet value: 1, next state: 4, value to write: 1, tape movement: L

Current state: 4, alphabet value: 1, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: 1, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: 1, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: 1, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: 1, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: θ, next state: 1, value to write: 1, tape movement: -

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Resulting tape value: 10000010

Traversed path consists of the following states: q0, q2, q4, q4, q4, q4, q4, q4, **q1**

Last state is in accepting state - a program is **successfully finished**

2. 10000 -> 10011

Input binary number (without θ): 10000

Starting tape value: θ10000

Current state: 0, alphabet value: 0, next state: 3, value to write: 1, tape movement: L

Current state: 3, alphabet value: 0, next state: 1, value to write: 1, tape movement: L

Current state: 1, alphabet value: 0, next state: 1, value to write: 0, tape movement: L

Current state: 1, alphabet value: 0, next state: 1, value to write: 0, tape movement: L

Current state: 1, alphabet value: 1, next state: 1, value to write: 1, tape movement: L

Current state: 1, alphabet value: θ, next state: 1, value to write: -, tape movement: -

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Resulting tape value: 10011

Traversed path consists of the following states: q0, q3, q1, q1, q1, q1, **q1**

Last state is in accepting state - a program is **successfully finished**

3. 1001 -> 1100

Input binary number (without θ): 1001

Starting tape value: θ1001

Current state: 0, alphabet value: 1, next state: 2, value to write: 0, tape movement: L

Current state: 2, alphabet value: 0, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: 0, next state: 1, value to write: 1, tape movement: L

Current state: 1, alphabet value: 1, next state: 1, value to write: 1, tape movement: L

Current state: 1, alphabet value: θ, next state: 1, value to write: -, tape movement: -

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Resulting tape value: 1100

Traversed path consists of the following states: q0, q2, q4, q1, q1, **q1**

Last state is in accepting state - a program is **successfully finished**

3. 1

Input binary number (without θ): 1

Starting tape value: θ1

Current state: 0, alphabet value: 1, next state: 2, value to write: 0, tape movement: L

Current state: 2, alphabet value: θ, next state: 2, value to write: -, tape movement: -

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Resulting tape value: 0

Traversed path consists of the following states: q0, q2, q2

Last state is not in accepting state - a program is **not successfully finished**

4. 0

Input binary number (without θ): 0

Starting tape value: θ0

Current state: 0, alphabet value: 0, next state: 3, value to write: 1, tape movement: L

Current state: 3, alphabet value: θ, next state: 3, value to write: -, tape movement: -

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Resulting tape value: 1

Traversed path consists of the following states: q0, q3, q3

Last state is not in accepting state - a program is **not successfully finished**

5. 10 -> 101

Input binary number (without θ): 10

Starting tape value: θ10

Current state: 0, alphabet value: 0, next state: 3, value to write: 1, tape movement: L

Current state: 3, alphabet value: 1, next state: 4, value to write: 0, tape movement: L

Current state: 4, alphabet value: θ, next state: 1, value to write: 1, tape movement: -

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Resulting tape value: 101

Traversed path consists of the following states: q0, q3, q4, **q1**

Last state is in accepting state - a program is **successfully finished**

6. 11 -> 110

Input binary number (without θ): 11

Starting tape value: θ11

Current state: 0, alphabet value: 1, next state: 2, value to write: 0, tape movement: L

Current state: 2, alphabet value: 1, next state: 4, value to write: 1, tape movement: L

Current state: 4, alphabet value: θ, next state: 1, value to write: 1, tape movement: -

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Resulting tape value: 110

Traversed path consists of the following states: q0, q2, q4, **q1**

Last state is in accepting state - a program is **successfully finished**