計算の理論第3回レポート

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* 100円硬貨と50円硬貨を受け付ける、ジュース150円の自販機のTMを作成せよ(今回は返却ボタンなしでよい)

状態遷移図

ダイアグラム

自動的に生成された説明

状態の有限集合Q={qs,50,100,150,200}

入力アルファベットΣ={H(100円),F(50円)}

テープアルファベットГ={H,F,X,X├,□,Re}

状態遷移関数δ:Q×Г→Q×Г×(L,R)

→下の状態遷移表

開始状態 qs ∈ Q

受理状態 150,200 ∈ Q

非受理状態 qreject ∈ Q

状態遷移表

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 状態/入力 | H | F | X | X├ | □ |
| qs | (100,X├,R) | (50,X├,R) |  |  | (qreject,□,-) |
| 50 | (150,X,-) | (100,X,R) |  |  | (qreject,□,-) |
| 100 | (200,Re,-) | (150,X,-) |  |  | (qreject,□,-) |
|  |  |  |  |  |  |

様相

50円→50円→100円

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F | F | H | □ | □ | □ | □ | □ | □ |

↑δ(qs,F)=(50,X├,R)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X├ | F | H | □ | □ | □ | □ | □ | □ |

↑δ(50,F)=(100,X,R)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X├ | X | H | □ | □ | □ | □ | □ | □ |

↑δ(100,H)=(150,X,-)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X├ | X | X | □ | □ | □ | □ | □ | □ |

遷移：FFH→X├FH→X├XH→X├XX

100円→100円

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| H | H | □ | □ | □ | □ | □ | □ | □ |

↑δ(qs,H)=(100,X├,R)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X├ | F | □ | □ | □ | □ | □ | □ | □ |

↑δ(100,H)=(200,Re,-)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X├ | X | □ | □ | □ | □ | □ | □ | □ |

遷移：HH→X├F→X├X