Formleg mál og reiknanleiki

Pétur

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1.

q_1000	$\delta(q_1, 0)$	$= (q_2, \sqcup, \text{R})$
$\sqcup q_2 00$	$\delta(q_2, 0)$	$= (q_3, \text{x}, \text{R})$
$\sqcup x q_3 0$	$\delta(q_3, 0)$	$= (q_4, \text{R})$
$\sqcup x 0 q_4$	$\delta(q_4, \sqcup)$	$= (q_{reject}, \text{R})$

2.

```
Input string w

while true do
        Sweep left to right across the tape, cross one a , b and c
        if single a left
                return accept
        else if single b left
                return accept
        else if single c left
                return accept
        else if a equals b or b equals c or c equals a
                return reject
```

3.

```
Input string w
while true do
        Sweep left to right across the tape. Mark x for 1 or 0
        closest to the beginning of the string then pass # and
        mark x  for 0 or 1 only if it equal the previous marked
        symbol closest to # on the right hand side. Then pas the
        # on the right hand side and mark the next 0 or 1 only if
        it equals the previous marked symbol.
        if only # and x
                return accept
        else if symbol 1 ... # .... n − i # .... n + i
        1 dose not equal n − i and 1 dose not equal n + i
                return reject
                // # n length # i length
                // n + i = the length of the string
```

4.

The picture shows that the Language is Turing-recognizable