

Ciências / Ciência da computação / Introduction to the Theory of Computation (3rd Edition)

Exercício 25

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Introduction to the Theory of Computation

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First we look at *Definition 1.5* and ask ourselves what do we need to change in order to adapt it for finite state **transducer**. The states are not changed, so set Q remains as it is. We still have alphabet Σ , but now we also have an output alphabet Γ . We still need initial state q_0 .

Let's think for a moment about transition function. It encodes the

We can now write formal definition: $\delta: Q \times \Sigma \rightarrow Q \times \Gamma$

Computation of the machine is now easy to define as well. Let $w = a_1 a_2 \dots a_n$

- * $r_0 = q_0$ is the initial state,
- * $\delta(r_i, w_{i+1}) = (r_{i+1}, z_{i+1})$, for $i = 0, 1, \dots, n-1$

There are no accepting states, so this definition has only two parts.

Resultado

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First we look at *Definition 1.5* and ask ourselves what do we need to change in order to adapt it for finite state **transducer**.

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