26.11.20

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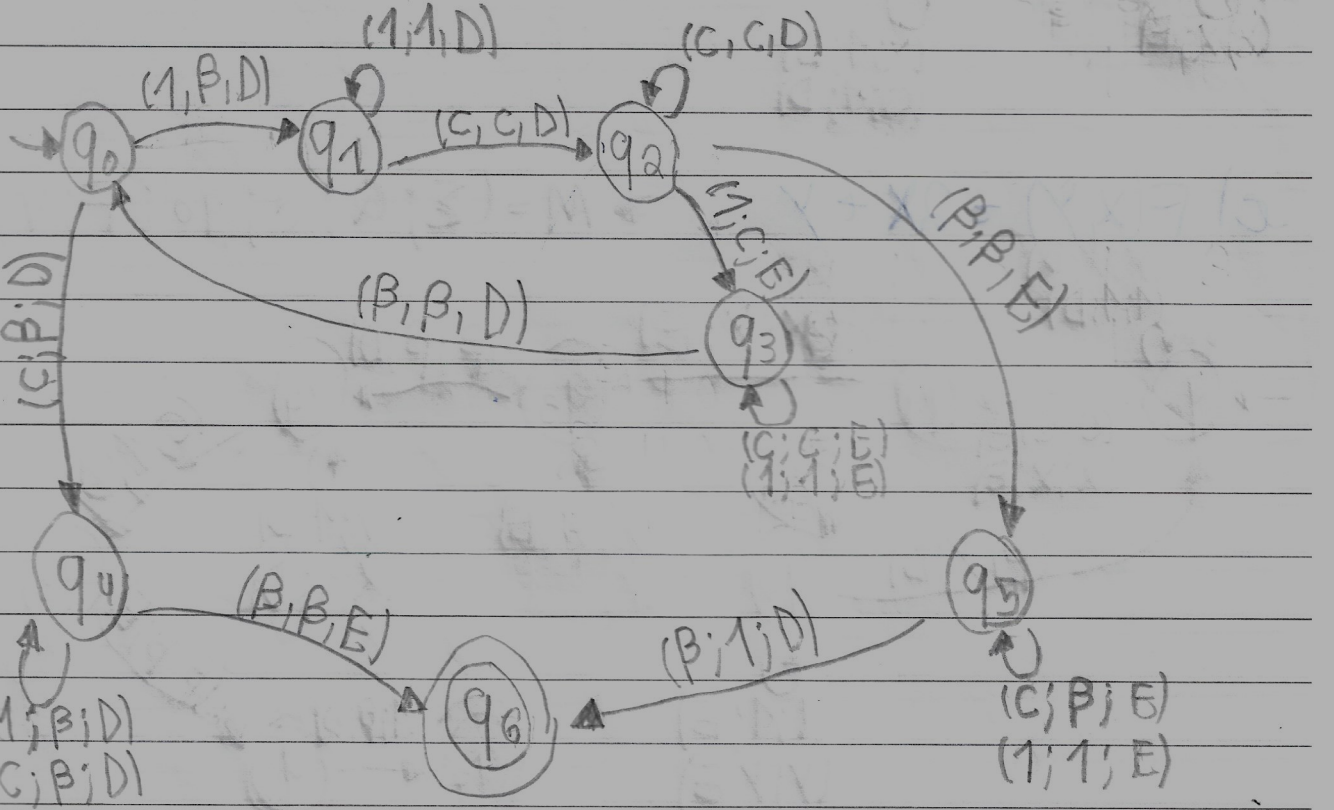
Lista de Exercícios 11

① Máquinas de Turing como Transdutores

a) $F(X,Y) = \begin{cases} X - Y & ; \text{se } X > Y \\ 0 & ; \text{caso contrário} \end{cases}$

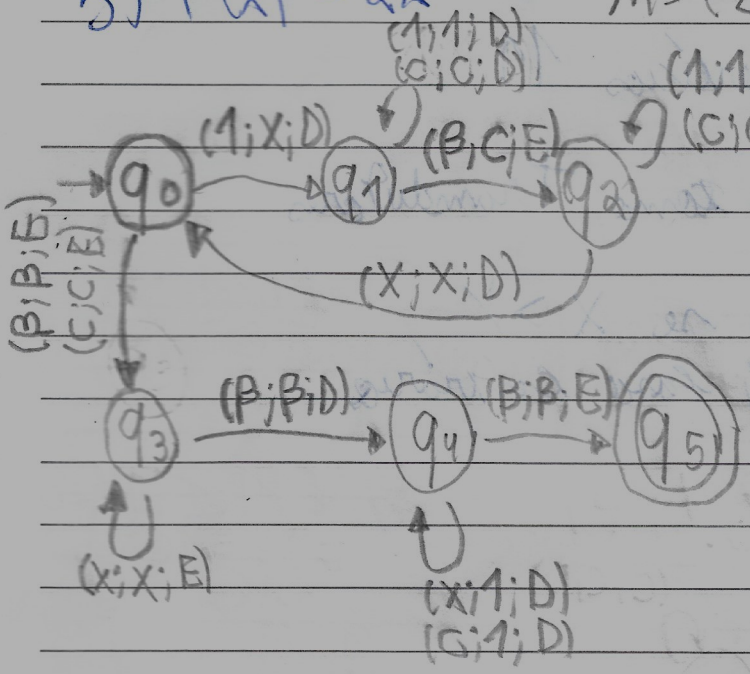
⇒ $M = (\Sigma, Q, \delta, q_0, F, V, \beta)$



↳ $\Sigma = \{1; C\}$ ↳ $Q = \{q_0, q_1, q_2, q_3, q_4, q_5, q_6\}$

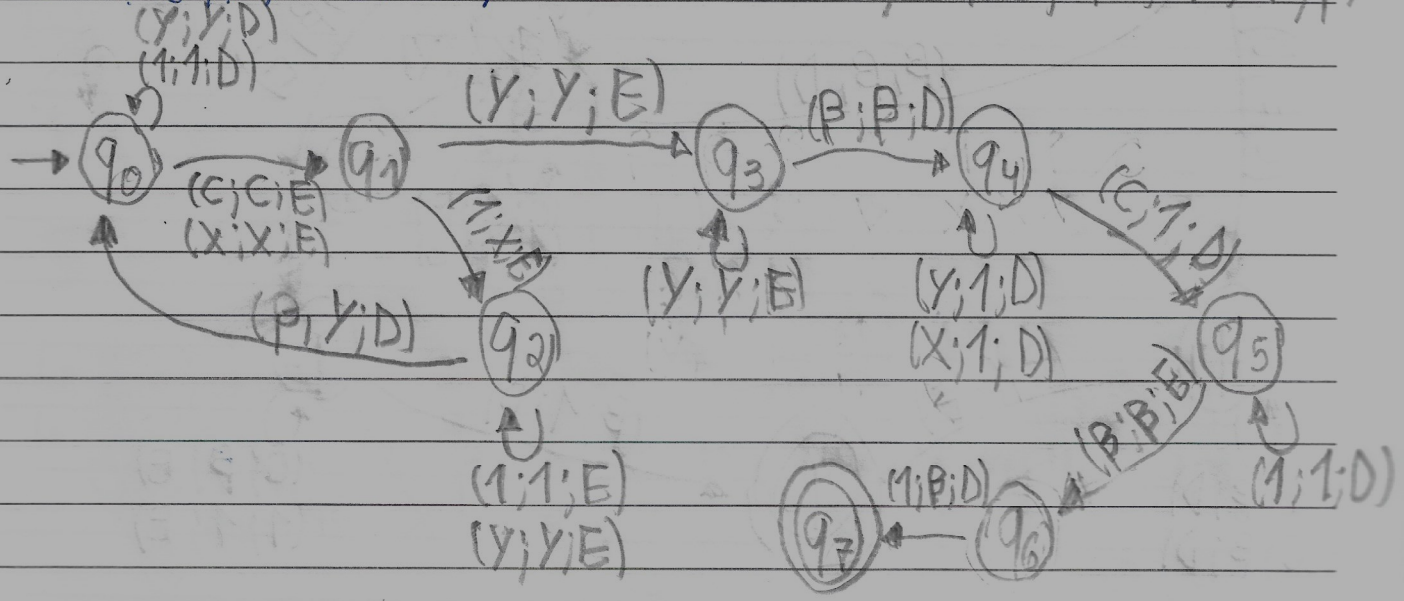
↳ $F = \{q_6\}$ ↳ $q_0 = \{q_0\}$ ↳ $V = \{C\}$

b) $F(X) = 2X$ → $M = (\Sigma, Q, d, q_0, F, V, \beta)$



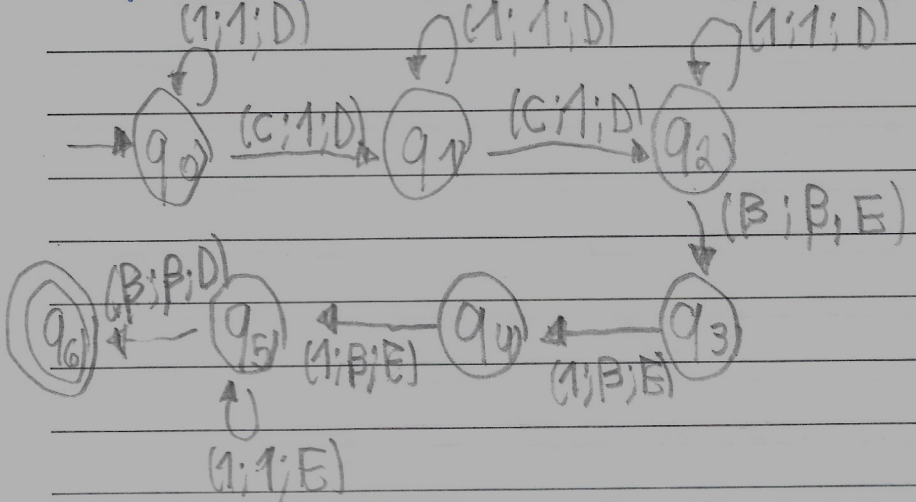
↳ $\Sigma = \{1\}$
↳ $Q = \{q_0; q_1; q_2; q_3; q_4; q_5\}$
↳ $q_0 = \{q_0\}$
↳ $F = \{q_5\}$
↳ $V = \{X; C\}$

c) $F(X,Y) = 2X + Y$ → $M = (\Sigma; Q; d; q_0; F; V; \beta)$



↳ $\Sigma = \{1; C\}$ ↳ $q_0 = \{q_0\}$
↳ $Q = \{q_0; q_1; q_2; q_3; q_4; q_5; q_6; q_7\}$
↳ $F = \{q_7\}$ ↳ $V = \{X; Y\}$

d) $F(x, y, z) = x + y + z$ ⇒ $M = (\Sigma, Q, \delta, q_0, F, V, \beta)$



↳ $\Sigma = \{1; C\}$ ↳ $q_0 = \{q_0\}$ ↳ $F = \{q_6\}$

↳ $Q = \{q_0; q_1; q_2; q_3; q_4; q_5; q_6\}$

↳ $V = \{\emptyset\}$