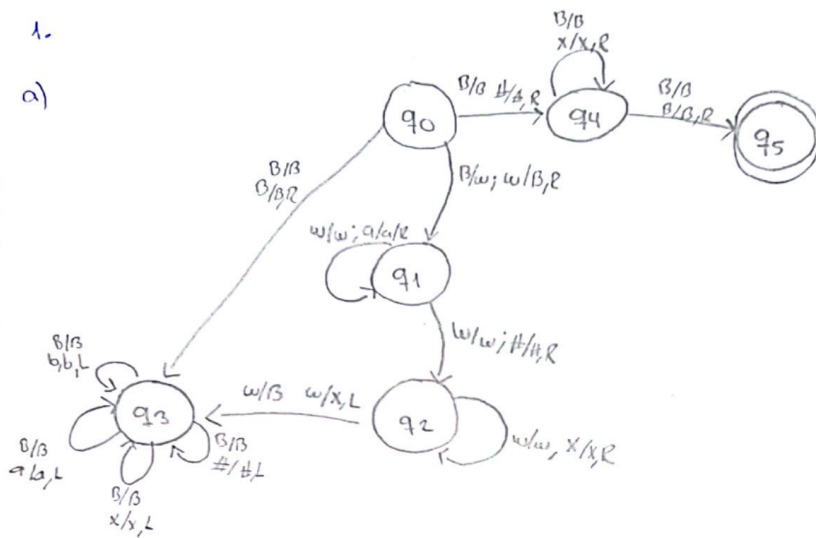


LABORATORIO #10

1.

a)



b)

$[q_0, \beta] \text{ aob} \neq \text{aob}$

$\vdash B[q_1, a] \text{ ab} \neq \text{aab}$

$\vdash B[a, a] b \neq \text{aab}$

$\vdash Baa[q_1, b] \neq \text{aab}$

$\vdash Babb[q_2, \#] \text{ aob}$

Primera Cadena

$\vdash Babb \neq [q_3, a] \text{ ab}$

$\vdash Babb \neq a[q_3, a] b$

$\vdash Babb \neq aa[q_3, b]$

$\vdash Babb \neq \text{aob}[q_0, \beta]$

$\vdash Babb \neq \text{aob}[q_4, \beta]$

$\vdash Babb \neq \text{abb}[q_5, \beta]$

Segunda Cadena

Estado de aceptación

$\therefore \text{aob} \neq \text{aob} \in L(M)$

c)

$[q_0, \beta] abb \# aab$

$\vdash \beta [q_1, \alpha] bb \# aab$

$\vdash \beta \alpha [q_1, b] b \# aab$

$\vdash \beta \alpha b [q_1, b] \# aab$

$\vdash \beta \alpha b b [q_2, \#] aab$

$\vdash \beta \alpha b b \# [q_3, a] ab$

$\vdash \beta \alpha b b \# a [q_3, a] b$

Existe una discrepancia, no se puede continuar
 $\therefore abb \# aab \notin L(U)$

d)

Longitud n

$aab \# aab$

$2n+1$

read and write

read

compare

$O(n)$

$O(1)$

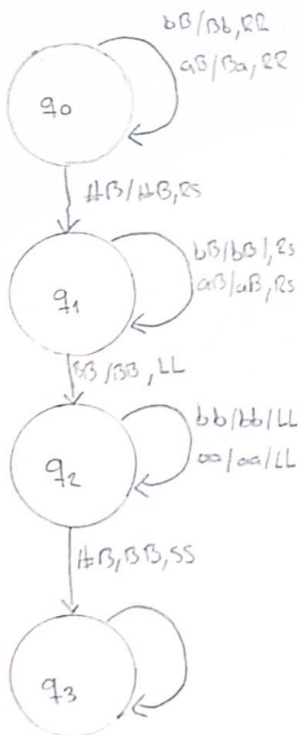
$O(n^2)$

$O(n^2)$

\therefore si hay discrepancia

2.

a)



b) $[q_0, \beta] aab \# aab, [q_0, \beta] \beta$

$\vdash \beta [q_0, a] ab \# aab, \alpha [q_0, \beta]$

$\vdash \beta \beta [q_0, a] b \# aab, \alpha \alpha [q_0, \beta]$

$\vdash \beta \beta \beta [q_0, b] \# aab, \alpha \alpha \alpha [q_0, \beta]$

$\vdash \beta \beta \beta \# [q_1, \#] aab, \alpha \alpha \alpha [q_1, \beta]$

$\vdash \beta \beta \beta \# a [q_1, a] ab, \alpha \alpha \alpha [q_1, \beta]$

$\vdash \beta \beta \beta \# aa [q_1, a] b, \alpha \alpha \alpha [q_1, \beta]$

$\vdash \beta \beta \beta \# aab [q_1, \beta], \alpha \alpha \alpha [q_1, \beta]$

$\vdash \beta \beta \beta \# aa [q_1, \beta] b, \alpha \alpha [q_2, \beta] b$

$\vdash \beta \beta \beta \# a [q_2, a] ab, \alpha [q_2, a] ab$

$\vdash \beta \beta \beta \# [q_2, a] aab, [q_2, a] aab$

$\vdash \beta \beta \beta [q_2, \#] \# aab, [q_2, \beta] aab$

$\vdash \beta \beta \beta [q_3, \beta] aab, [q_3, \beta] aab$

\therefore si acepta aW

c)

$$\# \text{ ej } 1 = 33$$

$$\# \text{ ej } 2 = 13$$

La maquina de Turing se ejecuta mas rapido y esto permite determinar la potencia de una cadena

d)

read and copy 2 n

read # 1

Final 2 chain n

compare $\frac{+n}{}$

$$O(3n+1)$$

$$O(n)$$