

## Tarea 8

1- Para los siguientes ejercicios, construya el diagrama de transición del AFD que acepta a cada uno los ~~dos~~ siguientes lenguajes sobre el alfabeto  $\Sigma = \{a, b\}$ , descritos por la expresión regular dada:

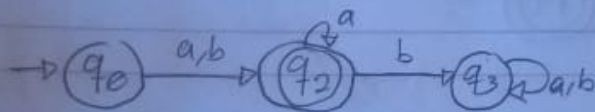
a)  $L = a^+ U b b^+$

Usando Teorema 15

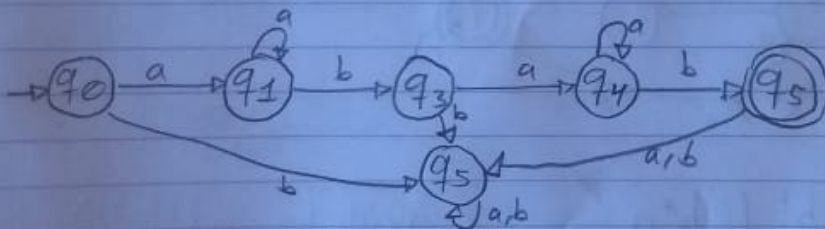
$$aa^* U ba^*$$

Usando Teorema 9

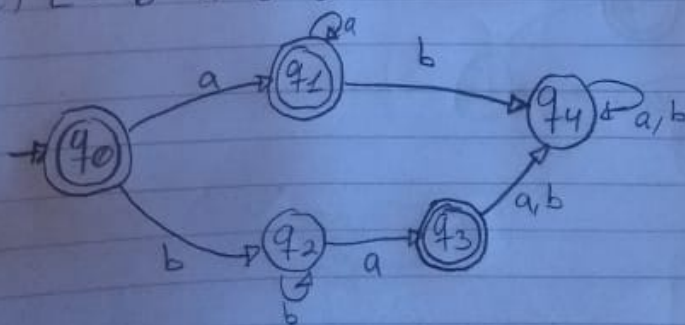
$$(a \cup b)a^*$$



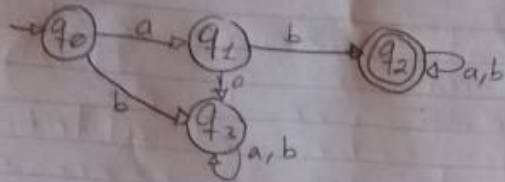
b)  $L = a^+ b a^+ b \rightarrow (a^+ b)^2$



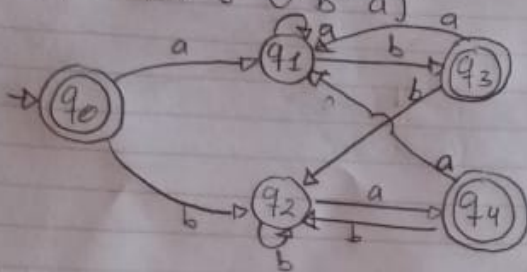
c)  $L = b^+ a U a^*$



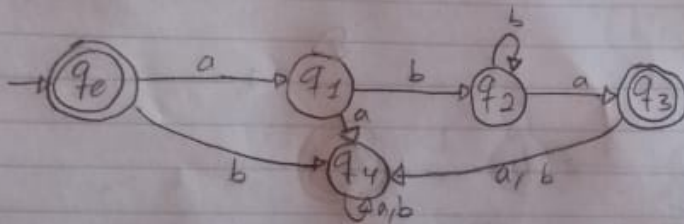
d)  $L = ab(a \cup b)^*$



e)  $L = (a^+b \cup b^+a)^*$

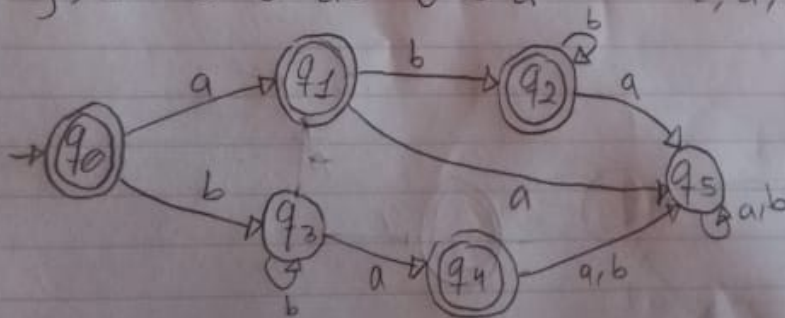


f)  $L = \epsilon \cup ab^+a$

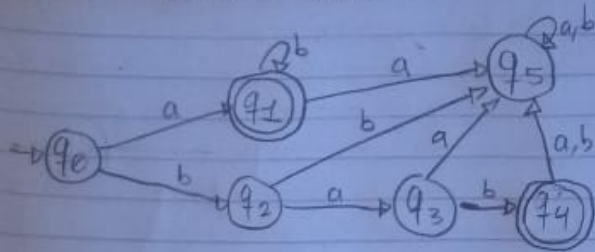


g)  $L = \epsilon \cup ab^+ \cup b^*a$

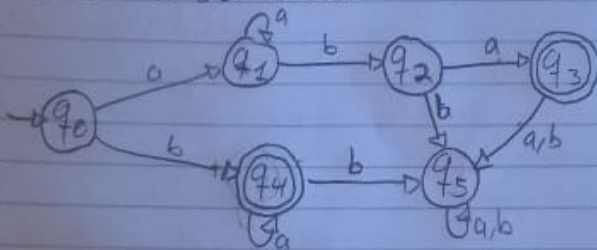
$\epsilon, a, ab, ba, a^3bb, b^3ba$



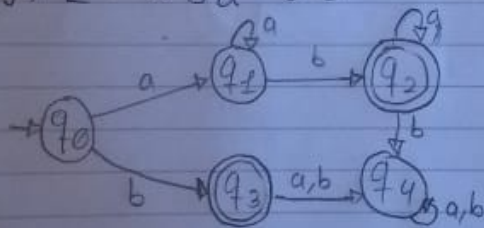
h)  $L = bab \cup ab^*$



i)  $L = a^+ba \cup ba^*$



j)  $L = a^+ba^* \cup b$



k)  $a(a \cup b)^+ \cup b$

$b, aa, ab, aaa, abb, aba,$

