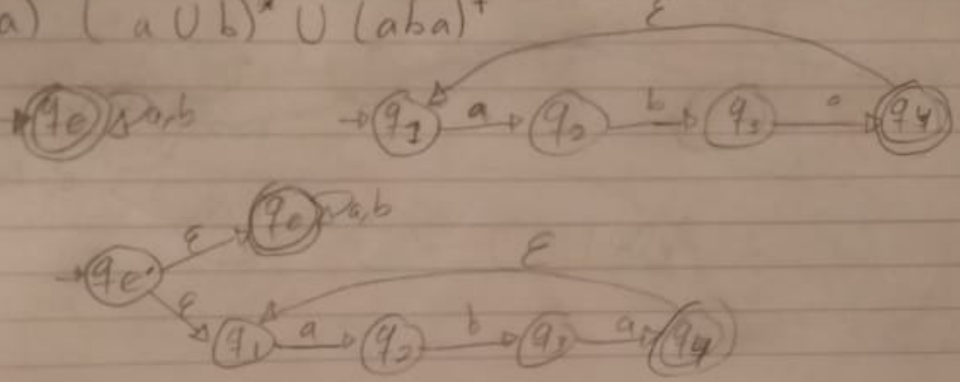
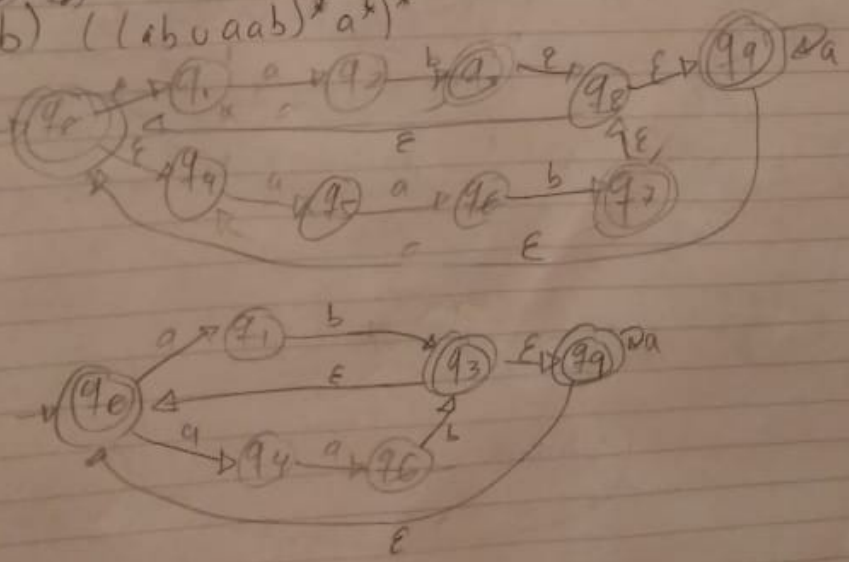
Tarea 13

1- De acuerdo con las técnicas descritas para la construcción de autómatas, construir los AFN que acepten cada uno de los siguientes lenguajes y aplique los criterios para eliminar las transiciones epsion donde sea posible:

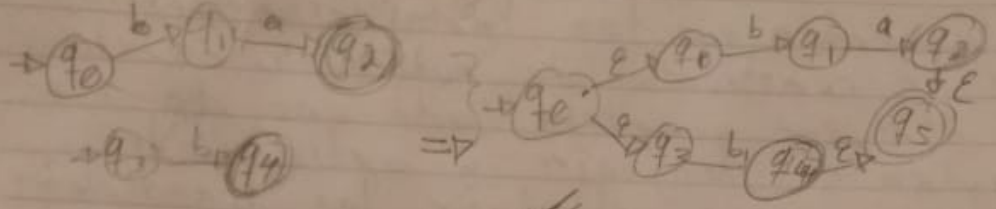
a) $(a \cup b)^* \cup (aba)^+$

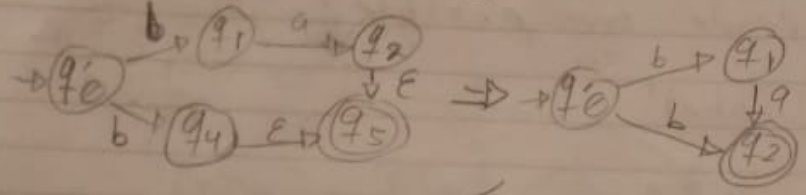


b) $((ab \cup aab)^* a^*)^*$

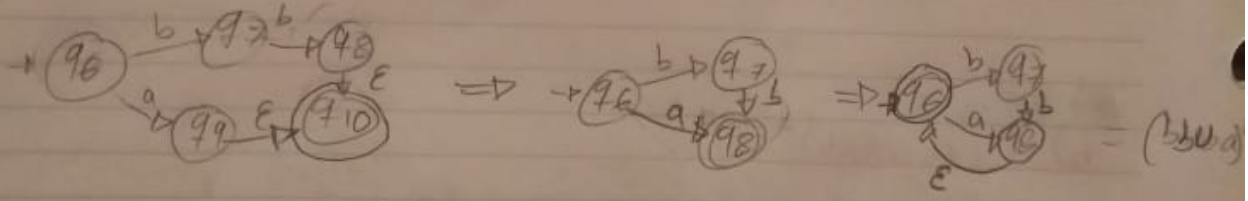


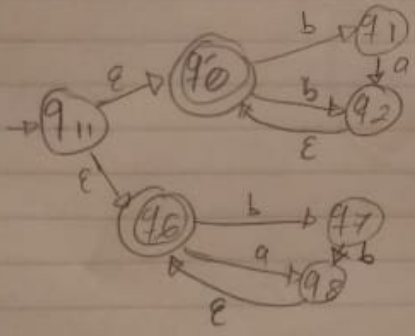
c) $(ba \cup b)^* \cup (bb \cup a)^*$

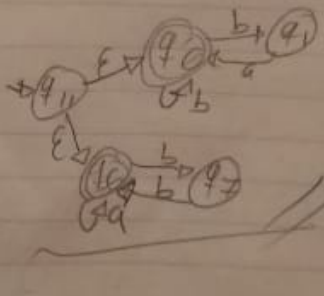




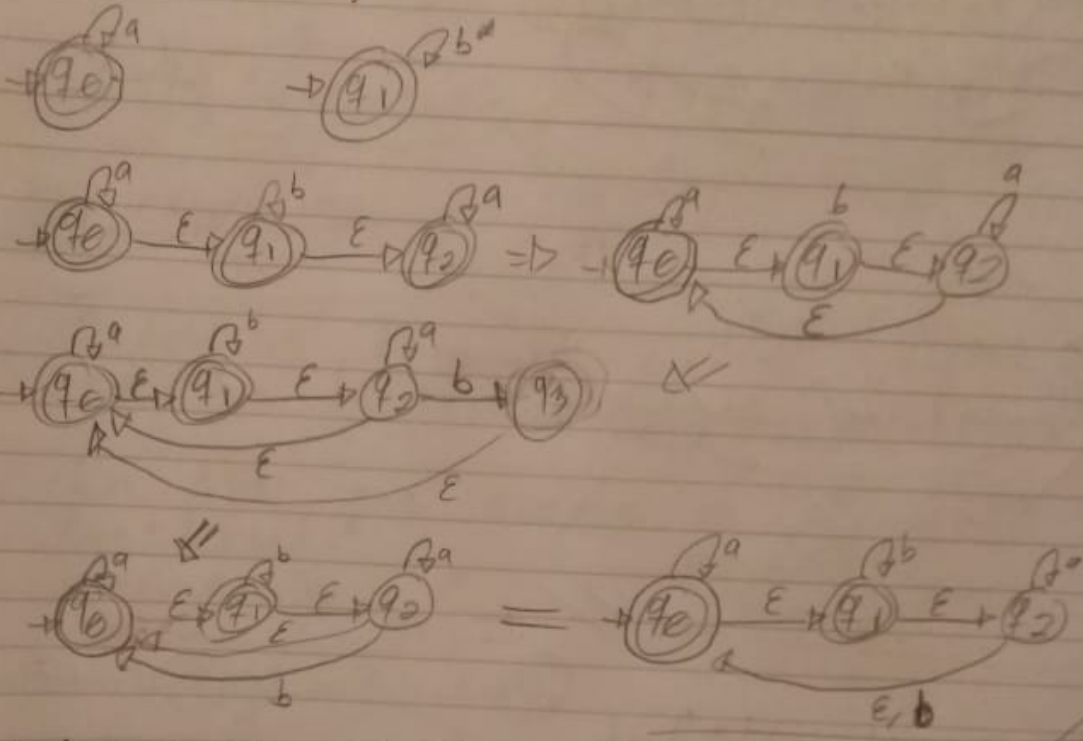
$= (ba \cup b)^*$



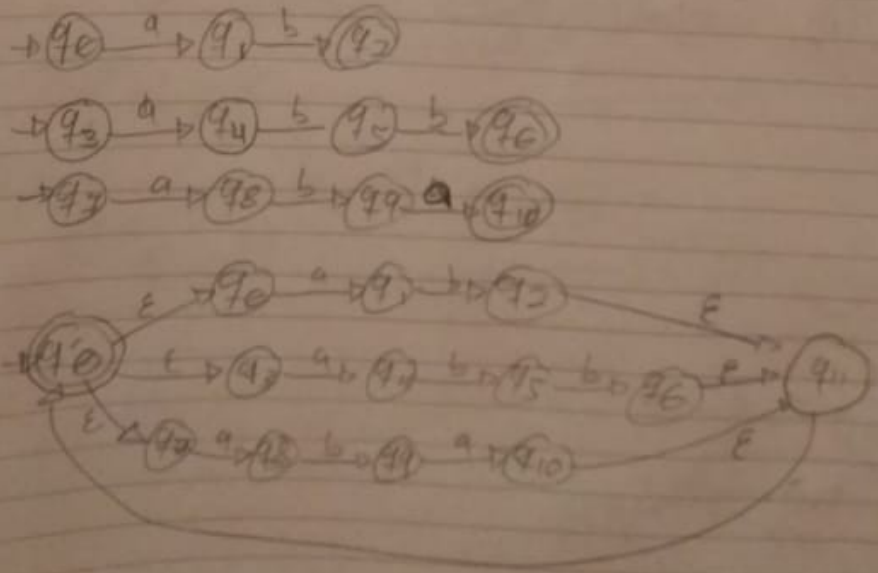


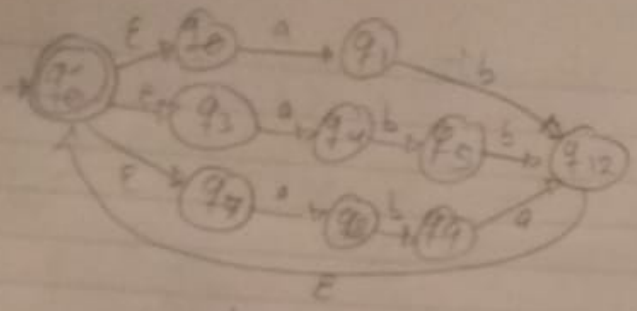


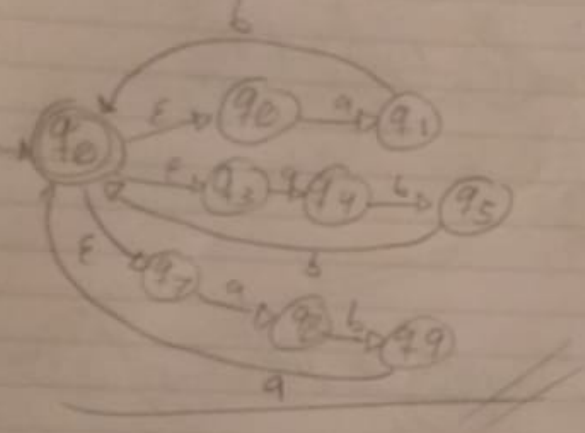
d) $((a^* b^* a^*)^* b)^*$



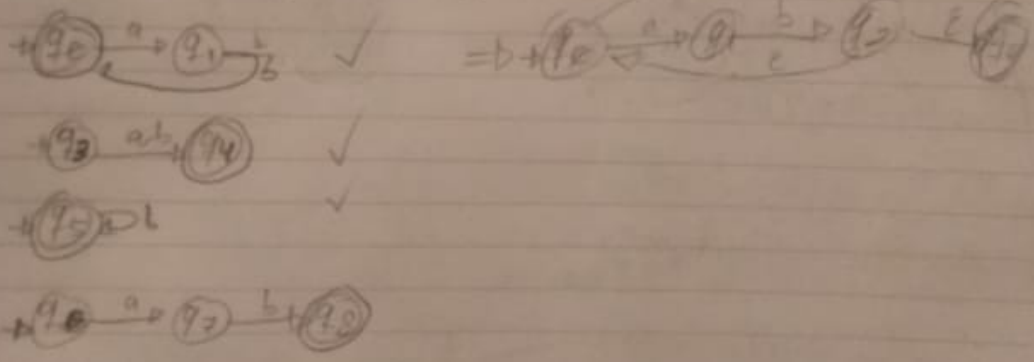
e) $(ab \cup abb \cup aba)^*$

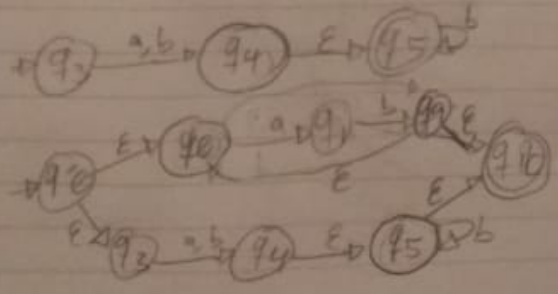


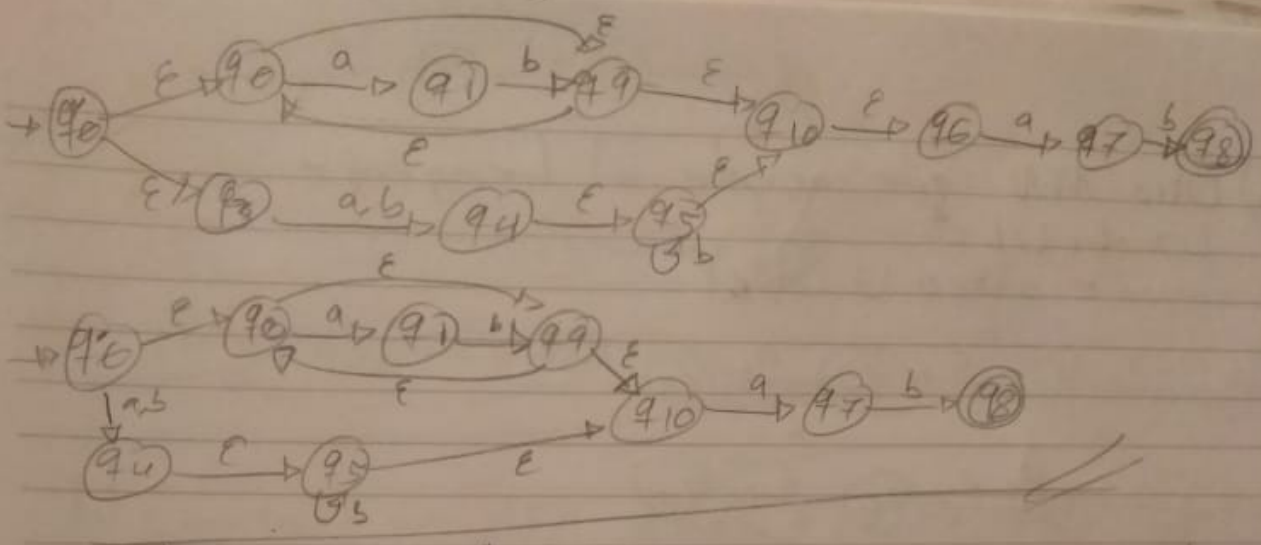




f) $((ab)^* \cup (b \cup a)b^*)ab$



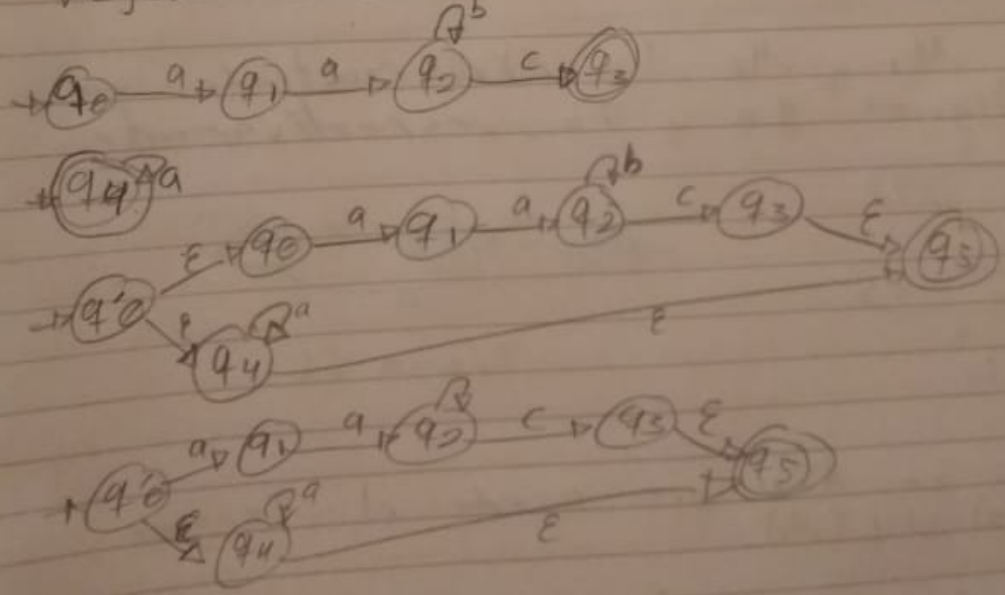




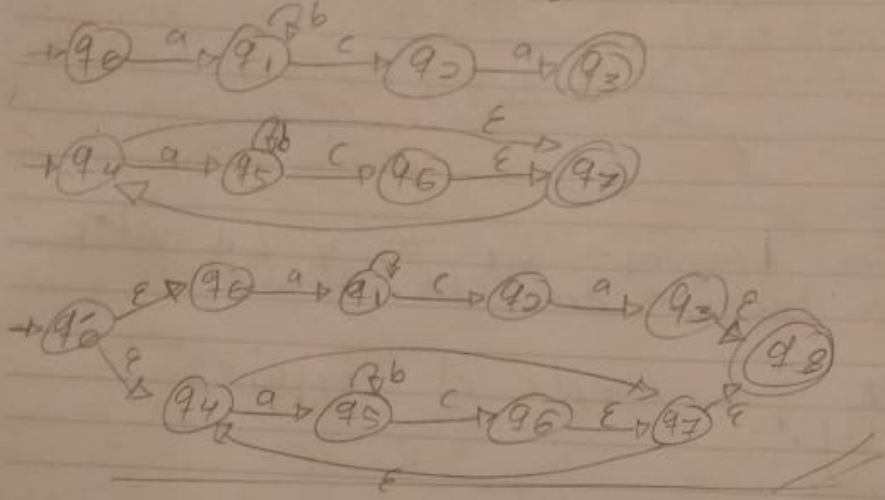
2. Dados los lenguajes $L_1 = a$ y $L_2 = ab^*c$ con las técnicas descritas construir:

a) Un AFN que acepte el lenguaje $L_1 \cdot L_2 \cup L_1^*$

regex: $a\,ab^*c \cup a^*$



b) Otro AFN que acepte el Lenguaje
$L_2 \cdot L_1 \cup L_2^*$
regex = $ab^*ca \cup (ab^*c)^*$



3: Sean M_1 y M_2, los AFNs mostrados en las Figuras 1a y 1b, respectivamente.

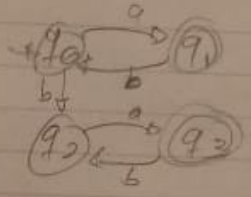


Figura 1a

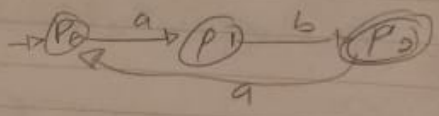
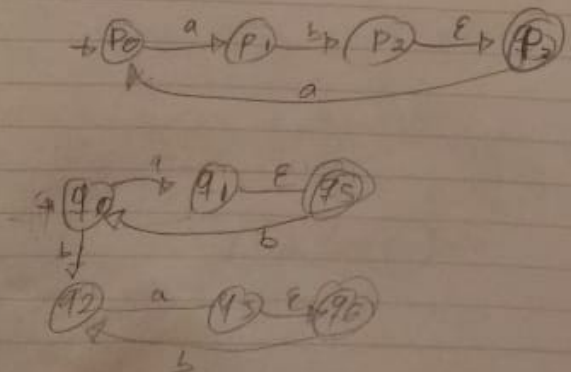
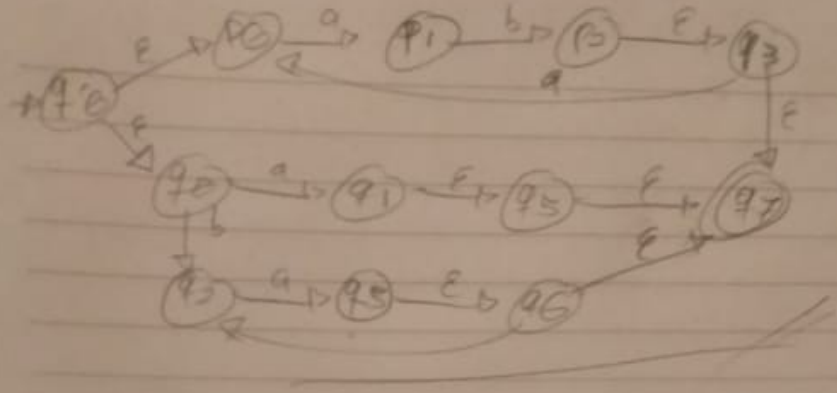


Figura 1b

a) Construir un AFN que acepte el lenguaje $L(M_2) \cup L(M_1)$





b) Construir un AFN que acepte el lenguaje $L(M_1) \cdot L(M_2)$