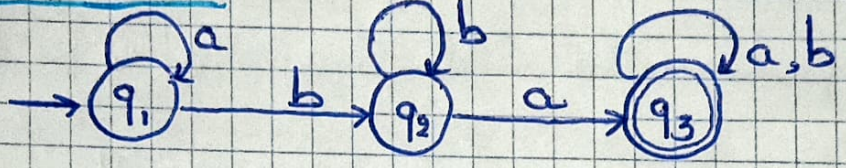
TD1 : Analyse lexicale "

exercice 3 :

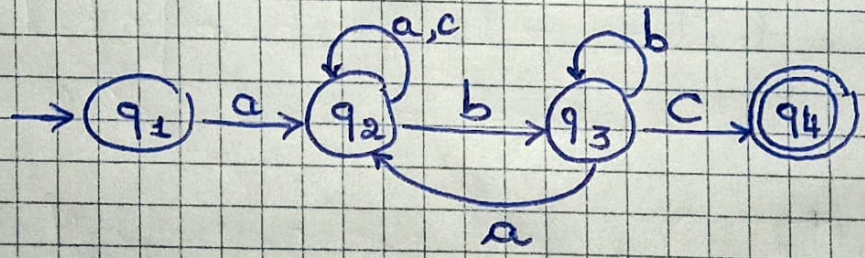
a) - $L = \{m \mid m \in \{a,b\}^*$ et m contient 'ba' comme sous mot $\}$

- l'expression régulière : $a^* b^+ a (a|b)^*$
- l'automate :



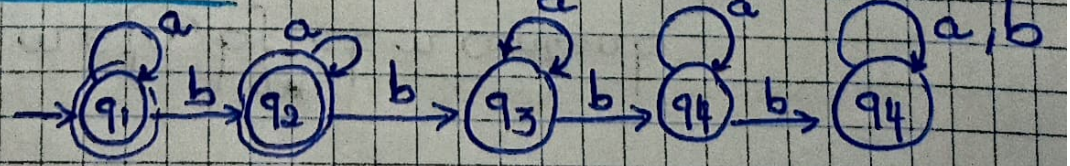
b) - $L = \{m \mid m \in \{a,b,c\}^*$ et m commence par un 'a' et se termine par 'bc'

- l'expression régulière : $a(a|b|c)^* bc$
- l'automate :



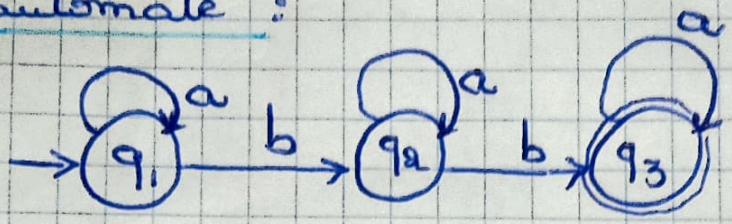
c) - $L = \{m \mid m \in \{a,b\}^*$ et m ne contient pas un nombre de 'b' égal à 2 $\}$

- l'expression régulière : $(a^* b? a^*) | (a^* b a^* b a^* b (a|b)^*)$
- l'automate :



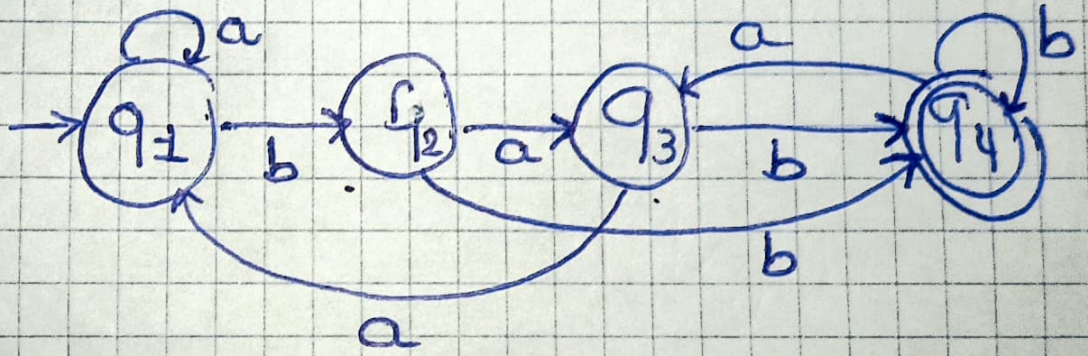
d) - $L = \{m \mid m \in \{a,b\}^*$ et m contient un nombre de b égal à 2$\}$

- L'expression régulière : $a^* b a^* b a^*$
- L'automate :



e) - $L = \{m \mid m \in \{a,b\}$ et m se termine par 'bab' et 'bb'$\}$

- L'expression régulière : $(a|b)^*(bab|bb)$
- L'automate :



f) - $L = \{m \mid m \in \{a,b\}^*$ et m contient au plus 2 'a' et au moins deux 'b'$\}$

Question 2 :

. L'expression régulière : $c^*((ab)^* | (ba)^*)((a|b|c)?)$

Question 3 :

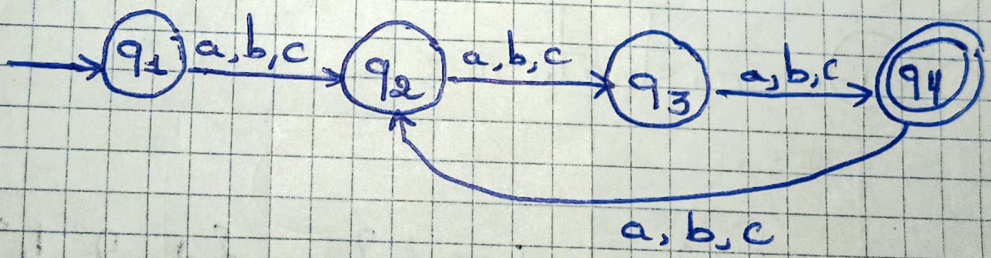
. L'expression régulière : $(a|b)(b^+a?)^*$

Question 3 :

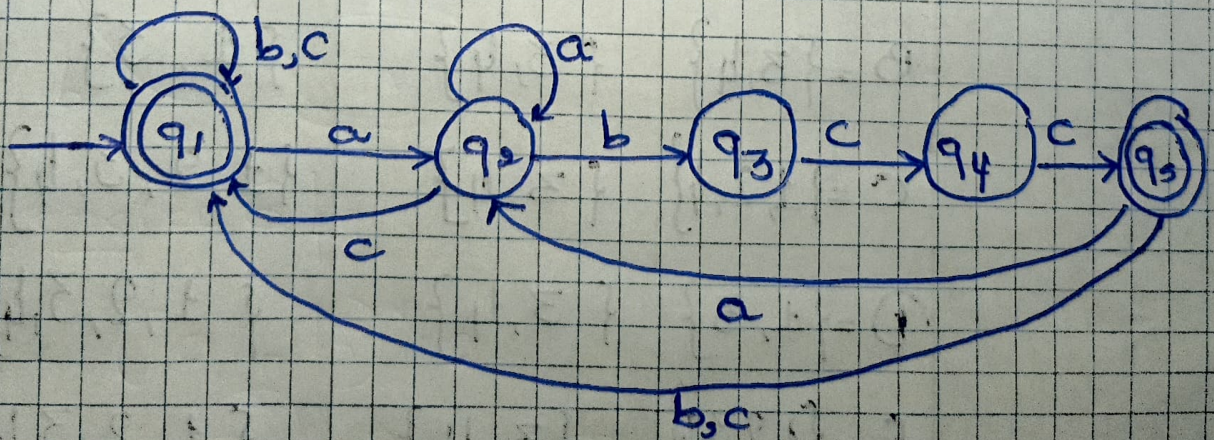
- Oui
- Non
- Non
- Oui

Exercice 4 :

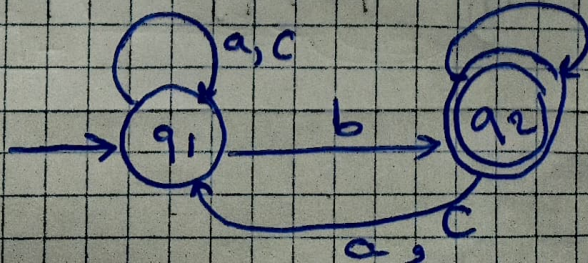
ⓐ -



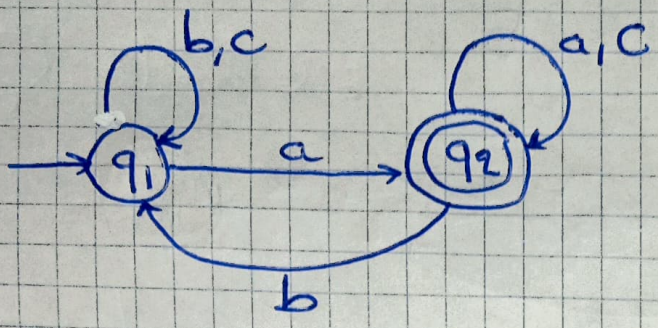
ⓑ -



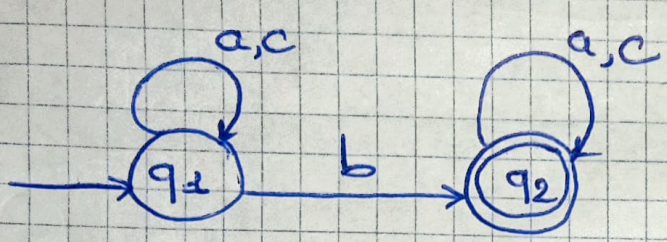
ⓒ -



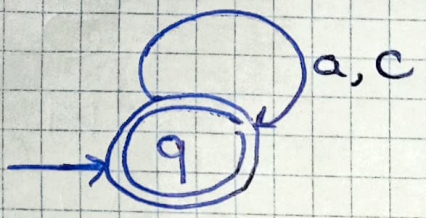
d)



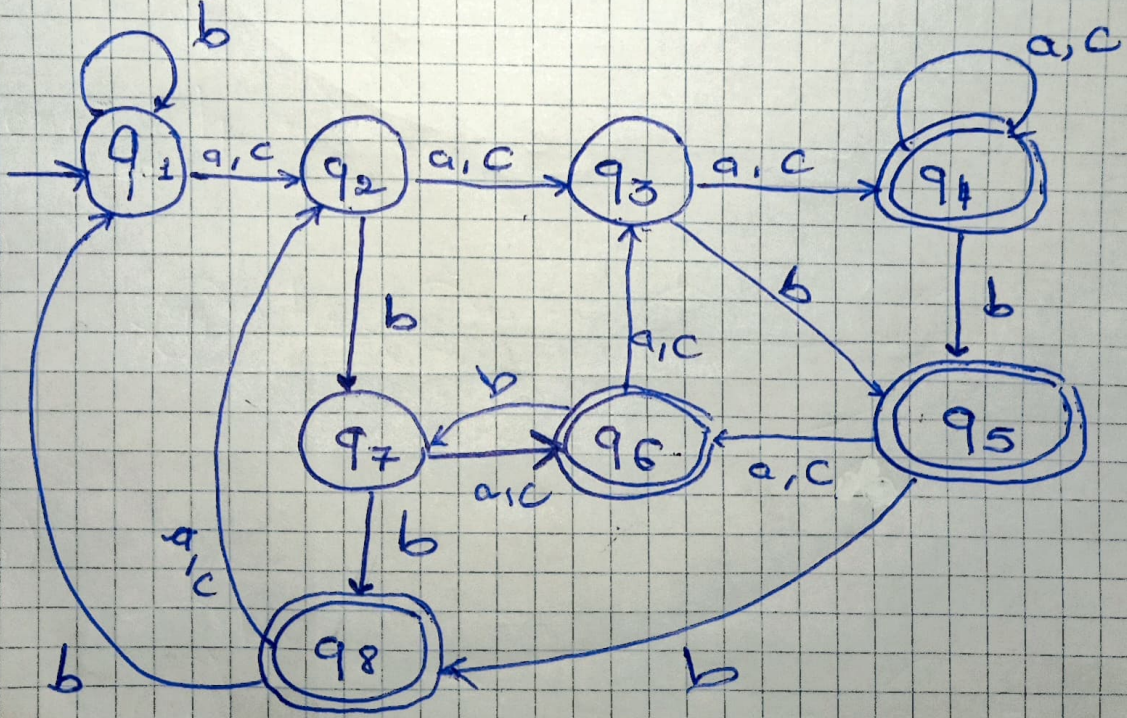
e)



f)

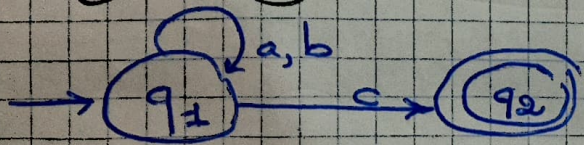


h)

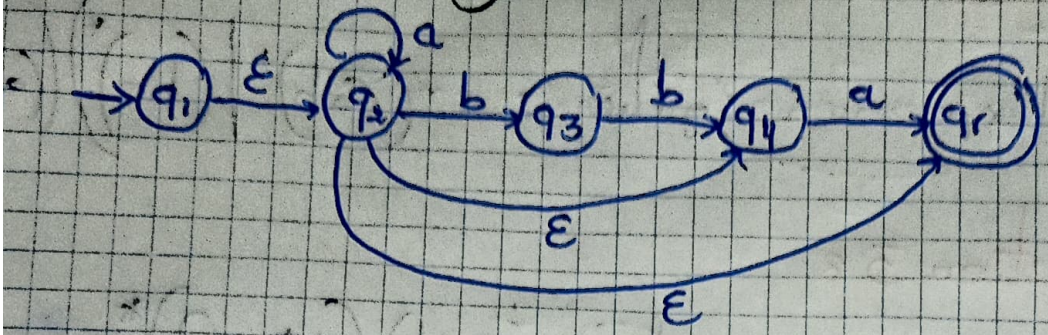


exercice 6 :

a) - $(a+b)^* c$

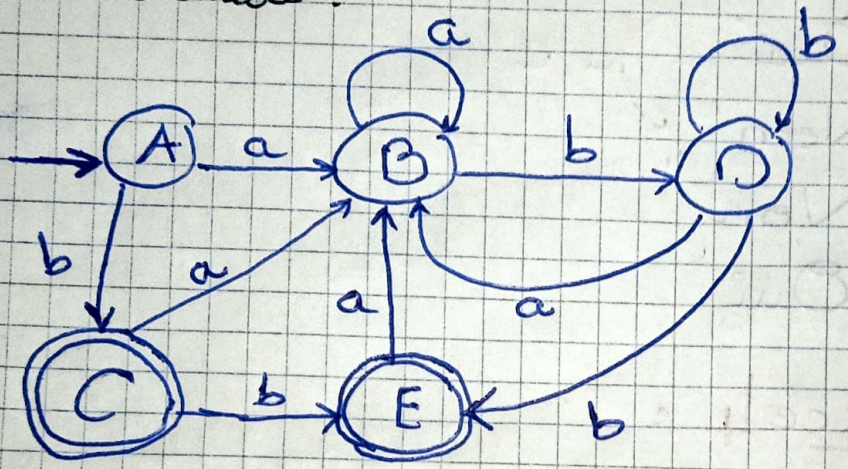


b) $a^*(\varepsilon + bb)a + \varepsilon$



exercice 5 :

l'automate :



1) Demonstration :

-Etat	a	b
A = {1}	{3,4}	{1,2,4}
B = {3,4}	{3,4}	{1,3}
C = {1,2,4}	{3,4}	{1,2,3,4}
D = {1,3}	{3,4}	{1,2,3,4}
E = {1,2,3,4}	{3,4}	{1,2,3,4}