

Quiz - 2  
Section - 3J  
Date - 18-Sept-25

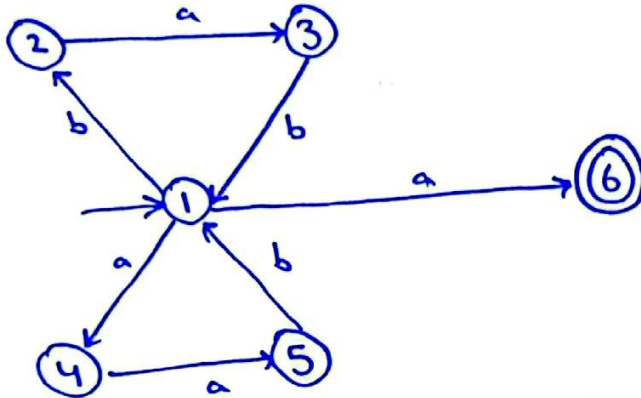
Student Roll No. 241-0677  
Student Name: Taha Tahir  
Total marks: 10

Note: In both questions, do all steps neatly in sequence. Otherwise, no marks will be given.

Q:1 - Given a R.E.  $\{bab, aab\}^*.a$  when  $\Sigma = \{a, b\}$  (2+2+1 marks)

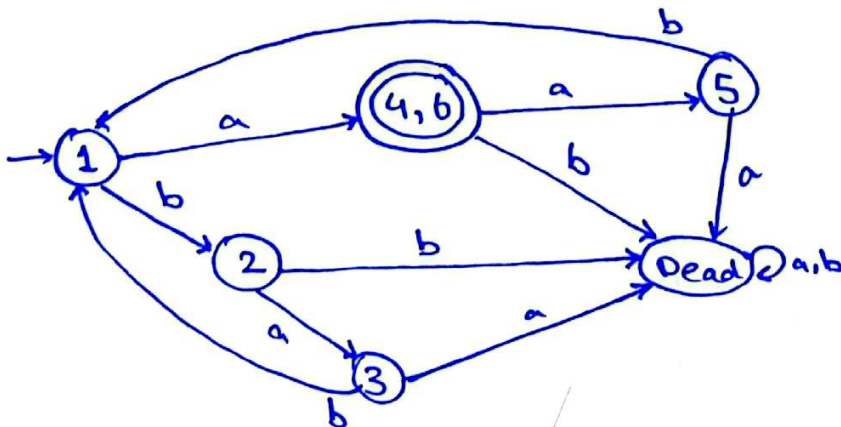
- Draw NFA – state diagram
- Convert NFA of part (a) into DFA
- Is the string 'babaabbaba' acceptable by language?

a)



	$\delta^*_a$	$\delta^*_b$
1	$\{4, 6\}$	2
2	$\{3\}$	$\emptyset$
3	$\emptyset$	$\{1\}$
4	$\{5\}$	$\emptyset$
5	$\emptyset$	$\{1\}$
6	$\emptyset$	$\emptyset$

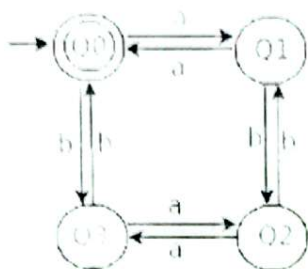
b)



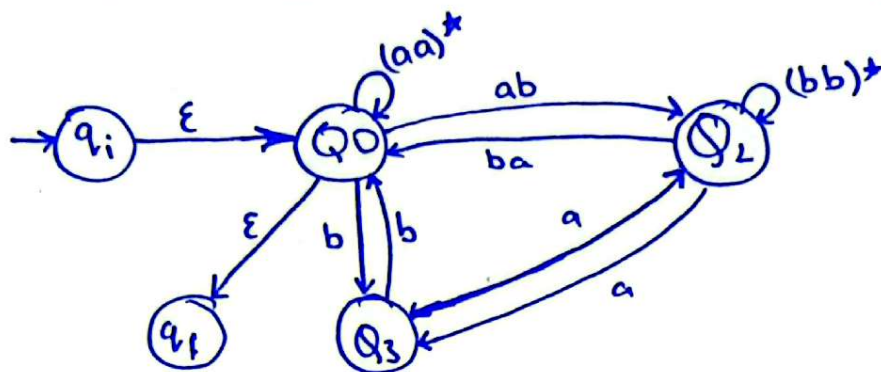
c)

Yes

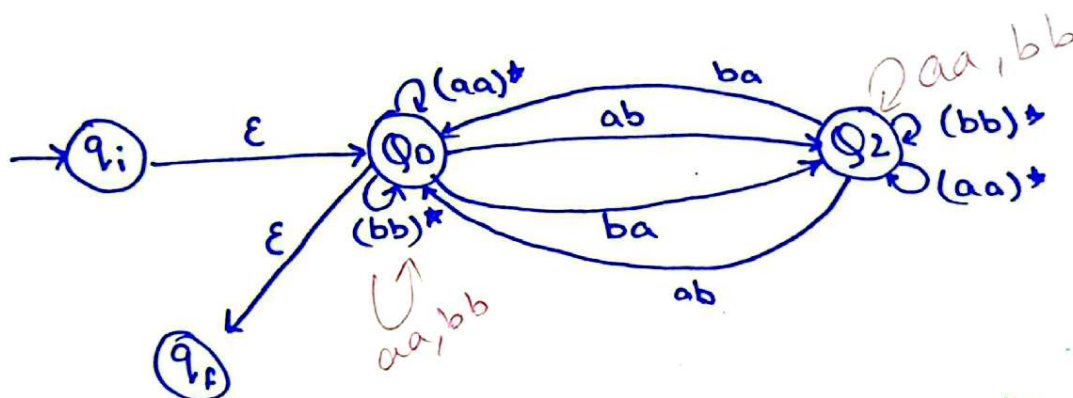
Q:2 – Make Regular Expression of language accepted by the DFA below. (5 marks)  
Follow state elimination in sequence Q1, Q3, Q2, Q0 to get final expression.



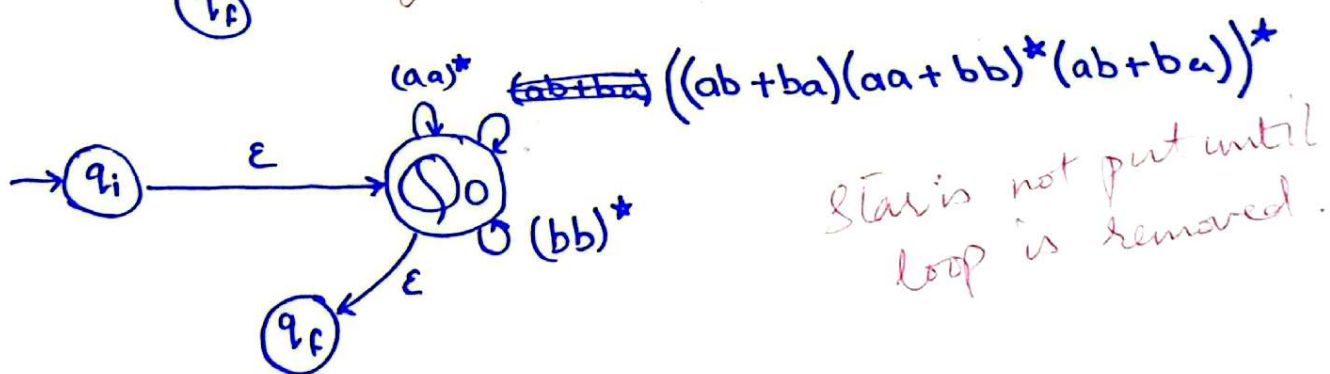
①



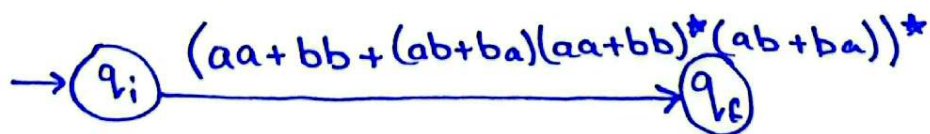
②



③



④



Req ex =  $(aa+bb+(ab+ba)(aa+bb)^*(ab+ba))^*$

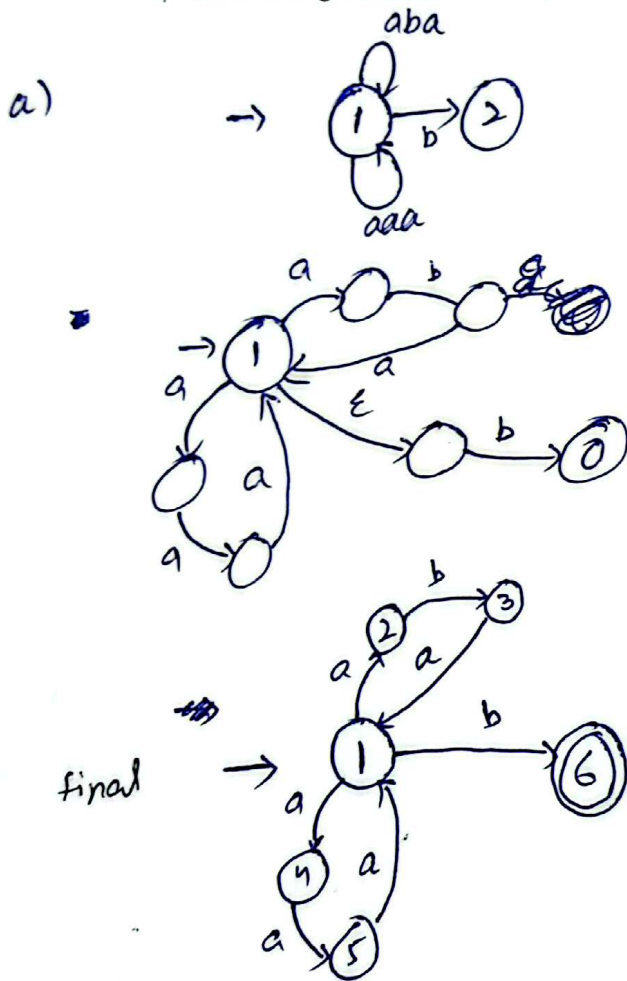
Quiz - 2  
Section - 5J  
Date - 17-Sept-25

Student Roll No. 23L-0786  
Student Name: Anmad Rasheed  
Total marks: 10

Note: In both questions, do all steps neatly in sequence. Otherwise, no marks will be given.

Q:1 - Given a R.E.  $\{aba, aaa\}^*.b$  when  $\Sigma = \{a, b\}$  (2+2+1 marks)

- Draw NFA - state diagram
- Convert NFA of part (a) into DFA
- Is the string 'abaaababa' acceptable by language?

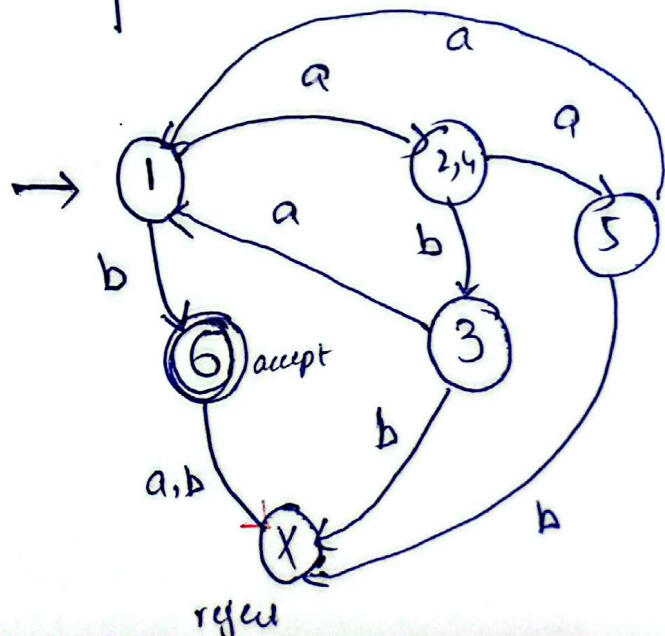


b)

	a	b
1	2, 4	6
2	$\emptyset$	3
3	1	$\emptyset$
4	5	$\emptyset$
5	1	$\emptyset$
6	$\emptyset$	$\emptyset$

	a	b
1	2, 4	6
2, 4	5	3
6	$\emptyset$	$\emptyset$
3	1	$\emptyset$
5	1	$\emptyset$



c) No  
aba, aab  
pattern  
not

Q:2 - Make parse tree for the string 'aabaabb' with the given NFA. (5 marks)

**Figure 3.71**  
Using `readtable` to read an Excel spreadsheet  
(`data.xls` and `FIG.3.71`)

