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6961
THEORY OF AUTOMATA

Q1) Keeping in the view the kleems theorem . Proof for any language S?

Ans: $S^+=(S^+)^+$

S=(a b)

S=(a b aa ab bb ba aaa aab aba abb bbb bba bab baa ….)

S^+=(a b aa ab bb ba aaa aab aba abb bbb bba bab baa….)

$(S^+)^+$=(a b aa ab bb ba aaa aab aba abb bbb bba bab baa….)

Here $(S^+)^+$ gives all those string which are gained concatenation of the string of S^+.

So it is proved that $S^+=(S^+)^+$.

Q2) How many words does S* will have of length 3 4 and 5 if

$$S=\{ ab \quad ba \}$$

(Design S* AND then write answer of the basis of the word S*)?

Ans: S={ab   ba }

S*= {^ ab   ba   abab   abba   baba   baab   ababab   abbaab   abbaba   bababa   babaab

Baabba   baabab   abababab ……..Babababa …….

So Total words of length   3=0

Total words of length   4=4

Total words of length   5=0

Q3) Fill in the blanks .

1. A dictionary is assigned in __alphabetically__ order .

2. + is caled __1/more__ order .

3. * is called __0/more__ instance .

4. ? Is called __0/1__ instance.

5. A formal languge is game of __Symbols__ on paper.

6. ^ is included in __Kleene__ closure.

7. __Refer__ is word whose reserved is equal to itself.

8. __Concatination__ is an operation in which symbols are placed side by side.

9. {a , b} = {b, a} for __reverse__ operation.

10. Two words having same symbols is same orders are called __Lexicographica__l Order.