[REGULAR EXPRESSION]

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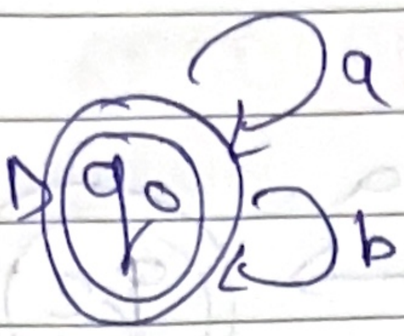
1]



$\Rightarrow (a+b)^*$

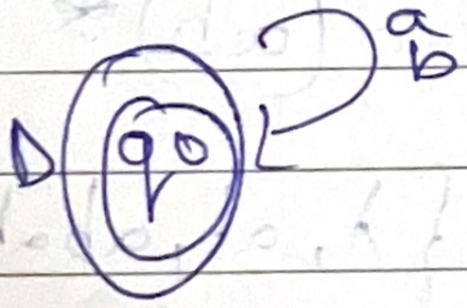
$\Rightarrow \{\lambda, a, b\}$

2]

$\Rightarrow (0+1)^*$

$\Rightarrow \{\lambda, a, b\}$

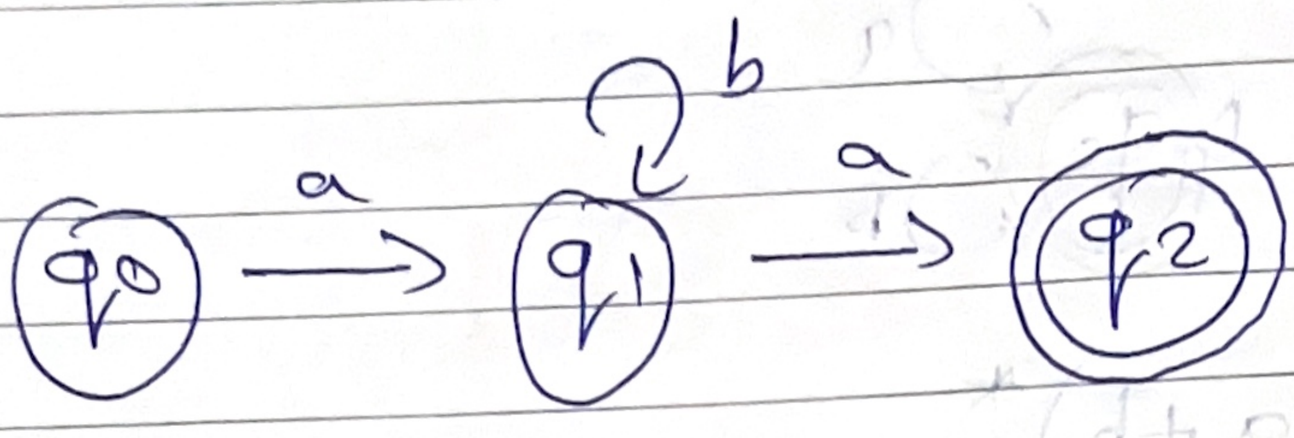
3]



$\Rightarrow (0+1)^+$

$\Rightarrow \{0, 1\}$

4]



$\Longrightarrow a.b^{*}.a$

$a^{*} \Longrightarrow$ ZERO OR MORE NUMBERS OF "a"

$a^{+} \Longrightarrow$ ONE OR MORE NUMBERS OF "a"

$a^{*}.b^{*}$

$\{\lambda, a, b, ab, aab, aabb \ldots.\}$

$(a.b)^{*}$

$\{\lambda, ab, abab, ababab \ldots.\}$

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Q. WRITE A REGULAR EXPRESSION FOR A BINARY EVEN NUMBER

$\Longrightarrow (0+1)^*.0$

Q. WRITE A REGEX FOR ATLEAST ONE "a"

$\Sigma = \{a, b\}$

$\Longrightarrow (a+b)^*.a.(a+b)^*$

atleast

atmost

exactly

Q. WRITE A REGEX FOR ATLEAST TWO "a"

$\Sigma = \{a, b\}$

$\Longrightarrow (a+b)^*.a.a.(a+b)^*$

Q. (WARE) FOR ATLEAST THREE "1"

$\Sigma = \{0, 1\}$

$\Longrightarrow (0+1)^*.1.(0+1)^*.1.(0+1)^*.1.(0+1)^*$

Q. (WARE) FOR ATLEAST OCCURANCE OF DOUBLE LETTER "aa" OR "bb"

$\Sigma = \{a, b\}$

$\Longrightarrow$

$$\left[(a+b)^*.aa(a+b)^*\right] + \left[(a+b)^*.bb.(a+b)^*\right]$$

$$(a+b)^*.(aa+bb).(a+b)^*$$

Q. (WARE) TO EXACTLY TWO OCCURANCE OF "a"

$\Sigma = \{a, b\}$

$\Rightarrow b^* . a . b^* . a b^*$

Q. [WARE] TO HAVE ATMOST 2 "a"

$\Sigma = \{a, b\}$

$\Rightarrow$ ~~$b^* + a^* + b^* + a^* + b^*$~~

$\Rightarrow [b^* + b^* a . b^* + b^* . a . b^* . a . b^*]$

Q. BEGIN WITH EVEN "a" AND END WITH EVEN "b"

$\Rightarrow (aa)^* . (bb)^*$

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Q. (WARE) WITH ATLEAST ONE "a" & ONE "b"

$\Rightarrow (a+b)^* . a . (a+b)^* . b . (a+b)^*$

Q. BEGIN WITH "a" END WITH "b", TOTAL LENGTH "EVEN"

$\Rightarrow (aa)^* . (bb)^* + a . (aa)^* . b . (bb)^*$

Q. BINARY WITH EXACTLY ONE PAIR OF CONSECUTIVE "0"

$\Rightarrow (1+(01))^* . 00 . (1+(10))^*$

CONSECUTIVE "1"

$\Rightarrow (0+(10))^* . 11 . (0+(01))^*$

Q. FIFTH SYMBOL FROM END IS ZERO

$\Rightarrow (0+1)^* . 0 . (0+1)^* . (0+1)^* . (0+1)^* . (0+1)$

Q. ATMOST TWO "0"

$\Rightarrow 1^* \; 1^* 0 \; 1^* \; 1^* 0$

Q. LENGTH IS MULTIPLE OF 3

$\Rightarrow ((a+b)\cdot(b+a)\cdot(a+b))^*$

Q. ATLEAST ONE "a", ONE "b"

$\Sigma = \{a, b, c\}$

$\Rightarrow (a+b+c)^* a (a+b+c)^* b (a+b+c)^*$

Q. $U = (a+b)^*$

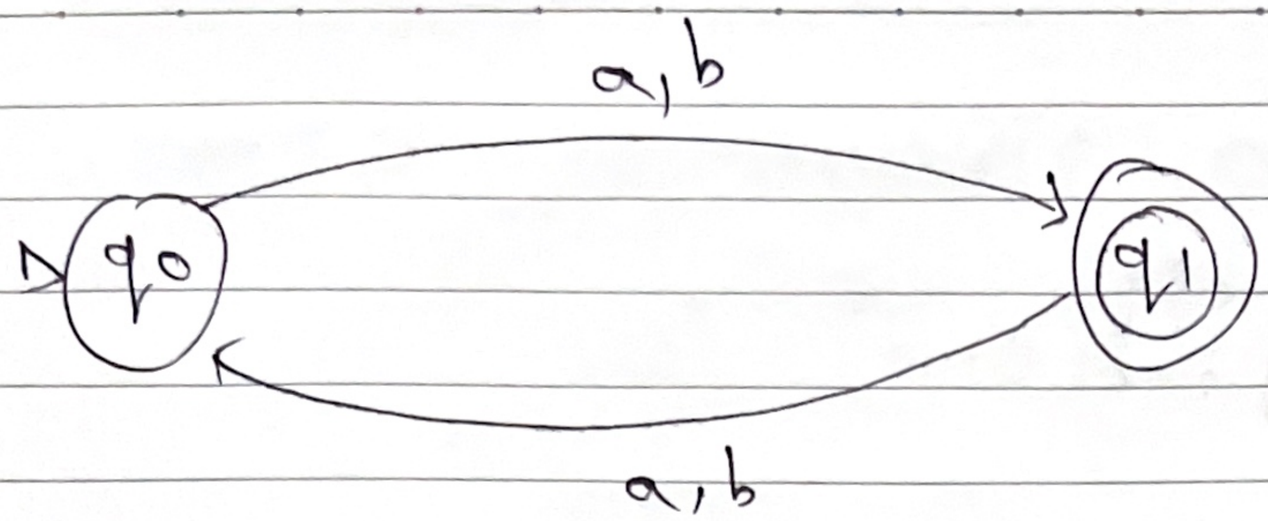
$V = (a+b)(a+b)$

$W = (a+b)^*$

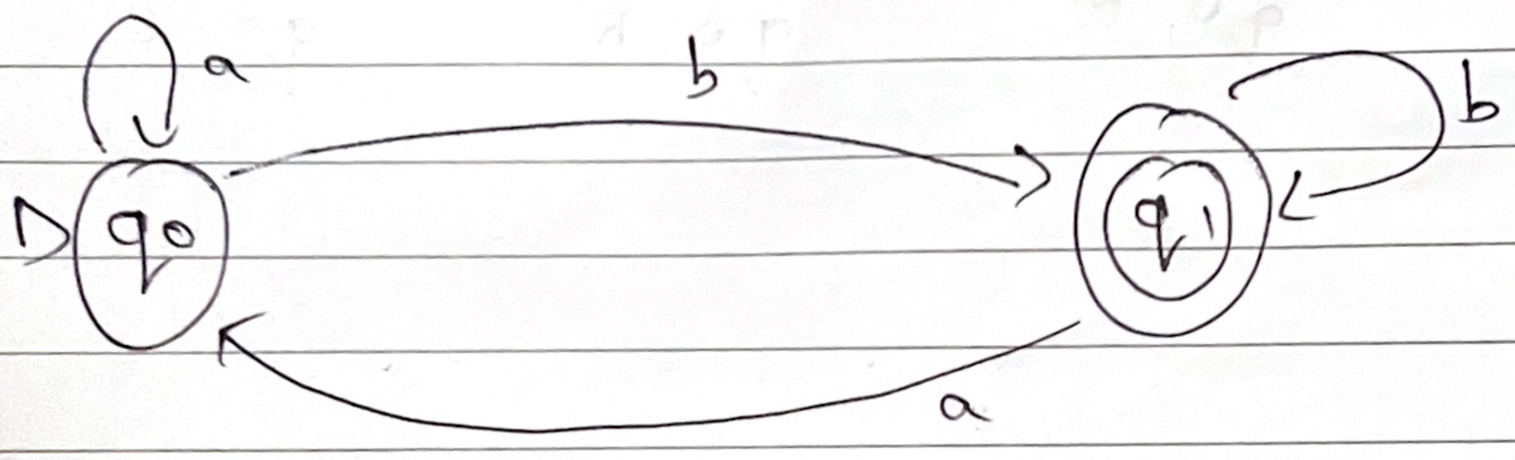
$\Sigma = \{a, b\}$

$|r| = 2$

$\Rightarrow (a+b)^* (a+b)(a+b)\cdot(a+b)^*$



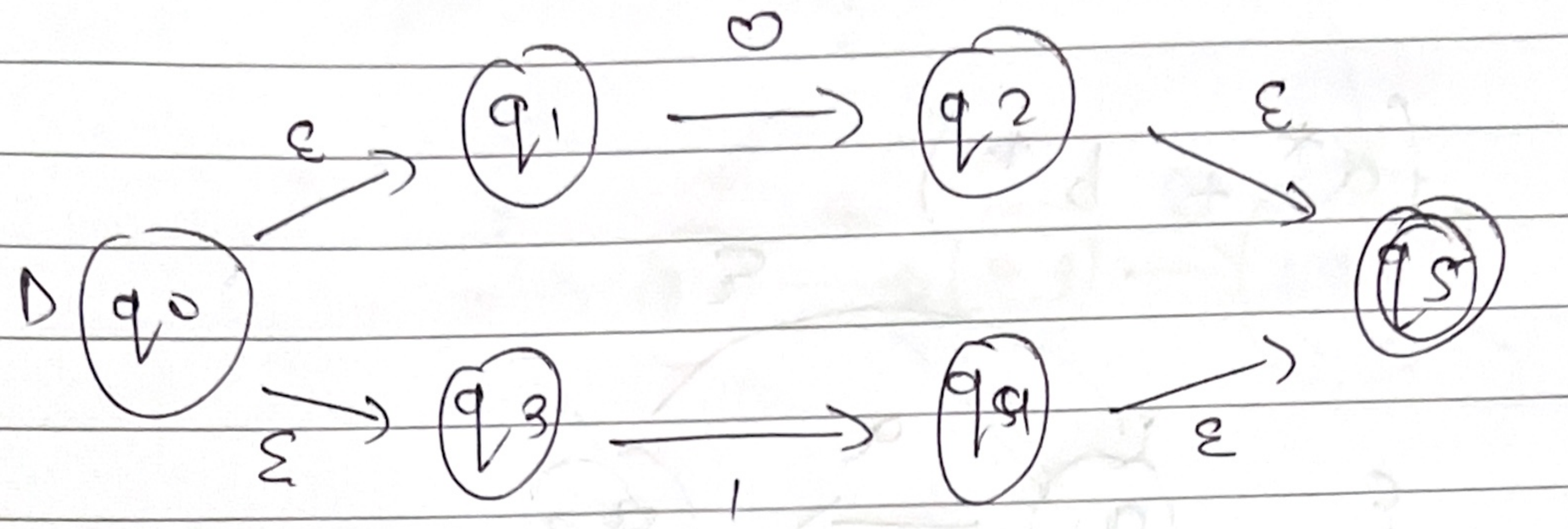
$\Longrightarrow (a+b)\left[(a+b)(a+b)\right]^*$



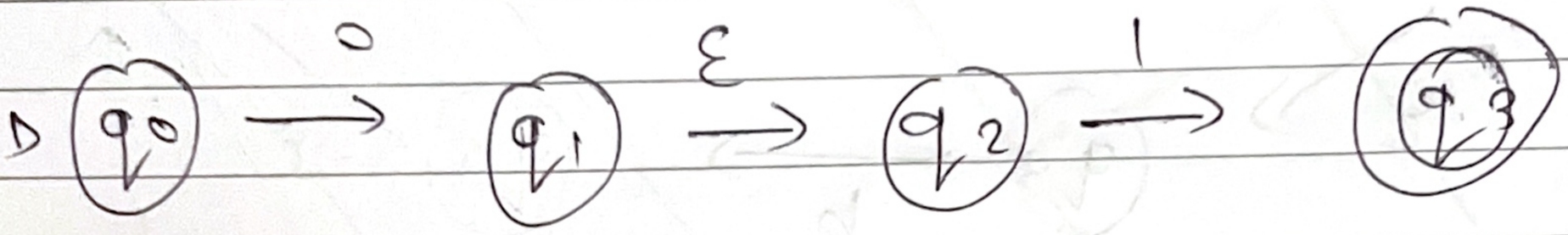
$\Longrightarrow (a+b)^* b$

REGEX TO (NFA)

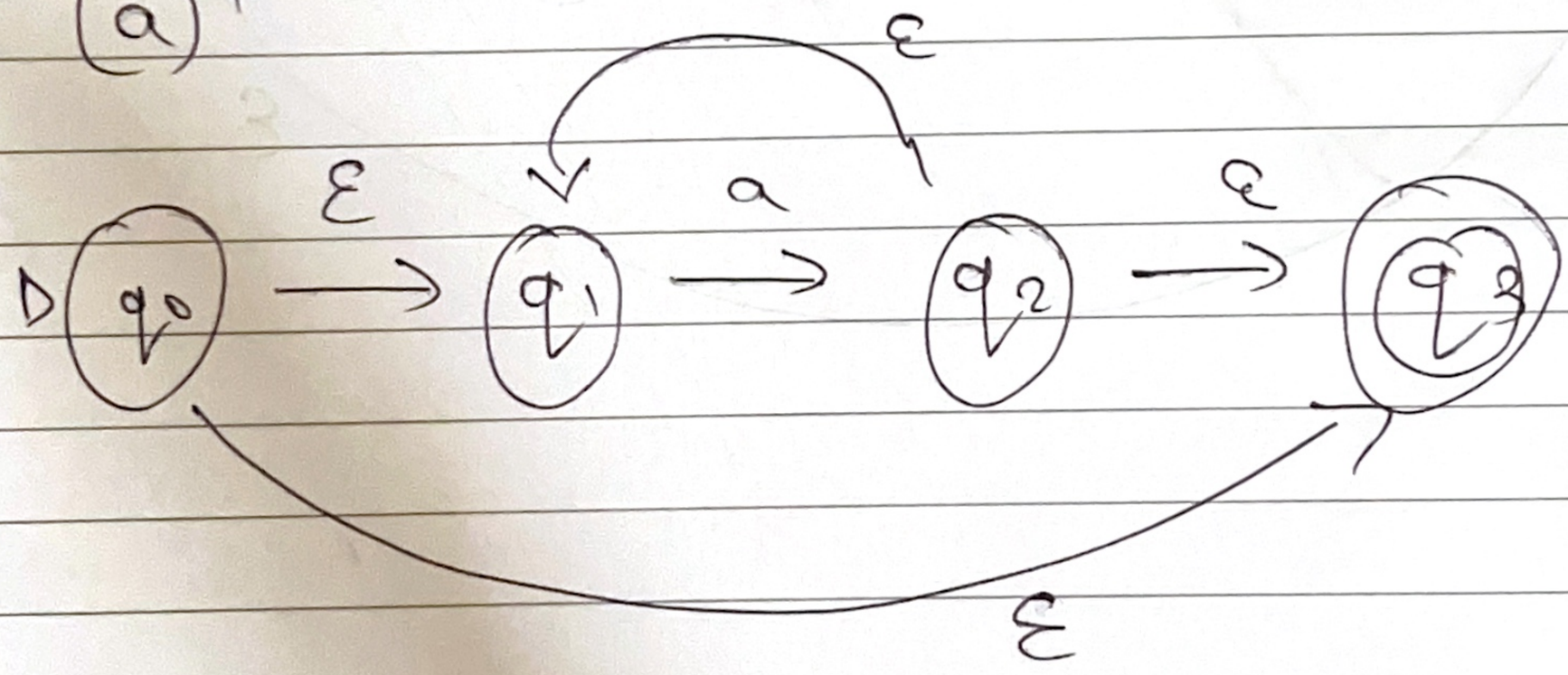
1] (0+1)



2] (0.1)



3] (a)*



$(a^* + b^*)$