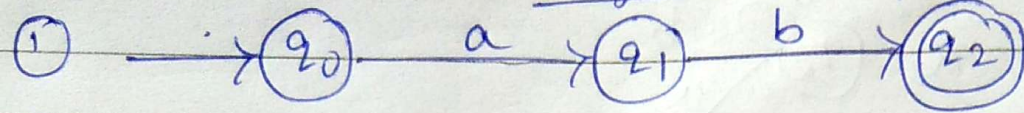
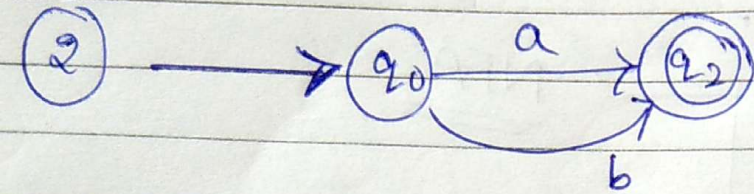


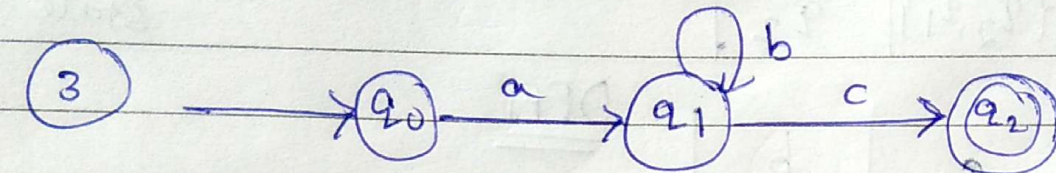
Regular expressions



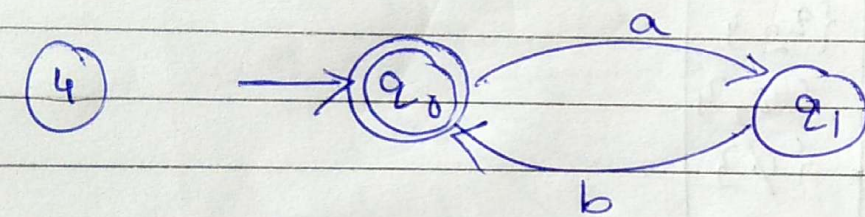
$$R.E = a.b$$



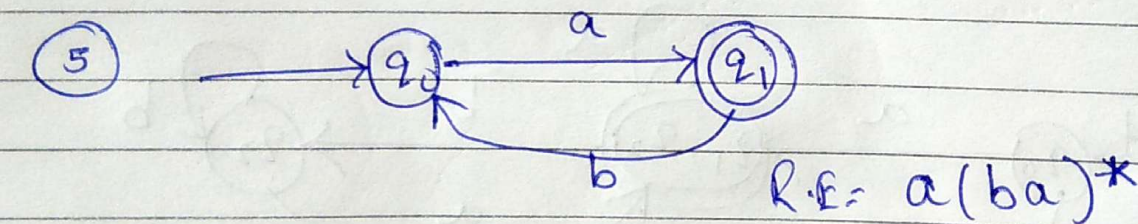
$$R.E = (a+b)$$



$$R.E = a.b^*.c$$

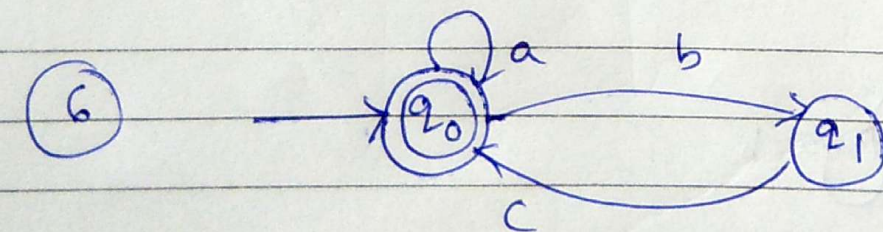


$$R.E = (a.b)^*$$



$$R.E = a(ba)^*$$

~~a*ab*~~



$$a^* + (bc)^* \quad \times$$

$$a^*(bc)^* \quad \times$$

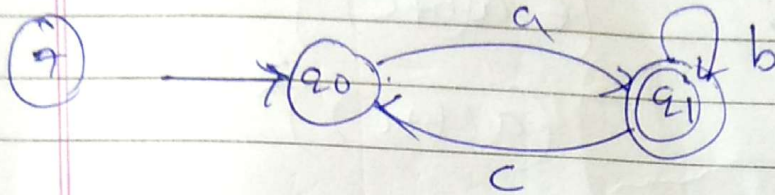
~~a*ba~~ ~~a*b~~ $(a^* + (bc)^*)^*$ ~~order is there~~ ~~bca is not~~ ~~representable~~

~~DEFA~~
The transition

~~NDEFA~~

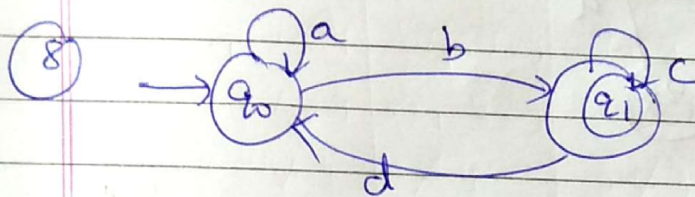
$$(a^* + (bc)^*)^* = (a+bc)^*$$

R.E = $(a+bc)^*$



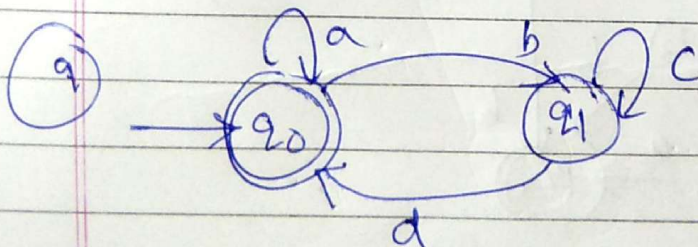
$$a(b^* + ca)^*$$

$$a(b+ca)^*$$



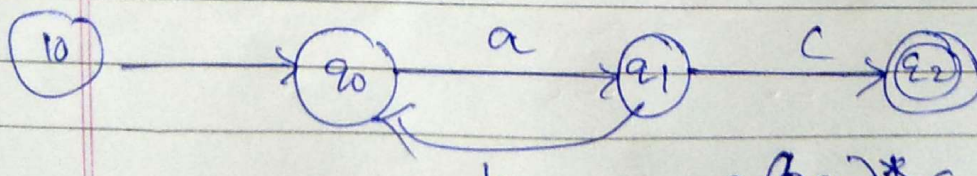
~~$$a^*b^*(c^* + da^*b)^*$$~~
~~$$a^*b(c+db)^*$$~~

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



~~$$a^*$$~~

$$(a+bc^*d)^*$$

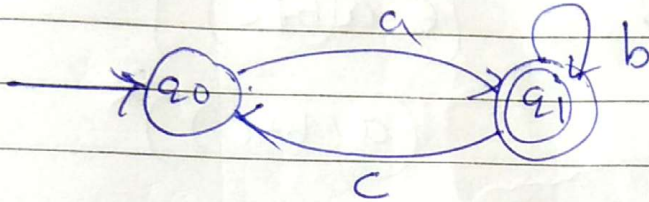


~~DFA~~

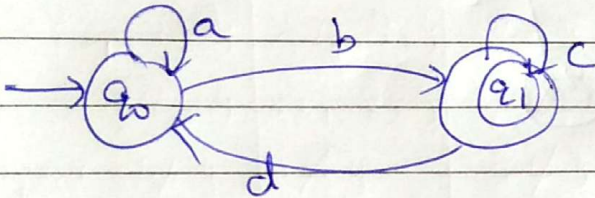
~~NFA~~

The transition

$$(a^+(bc)^*)^* = (a+bc)^*$$
$$R.E = (a+bc)^*$$

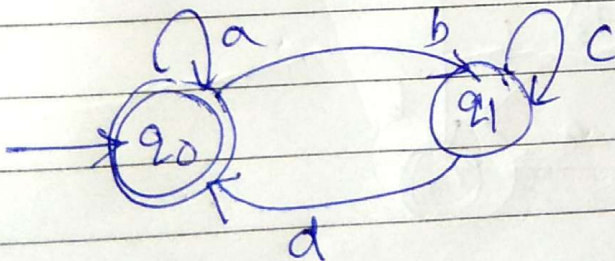


$$a(b^*+ca)^*$$
$$a(b+ca)^*$$

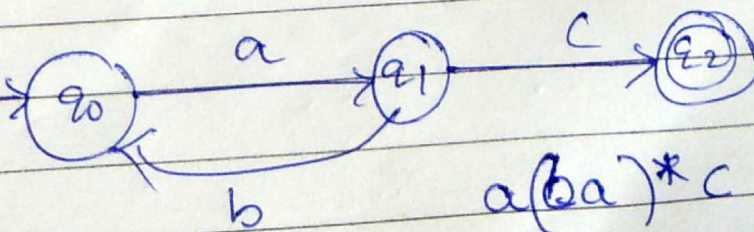


$$a^*b^*(c^*+da^*b)^*$$
$$a^*b(c+da^*b)^*$$

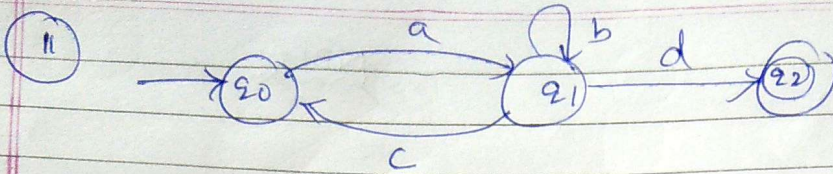
$$a^*b(c+da^*b)^*$$



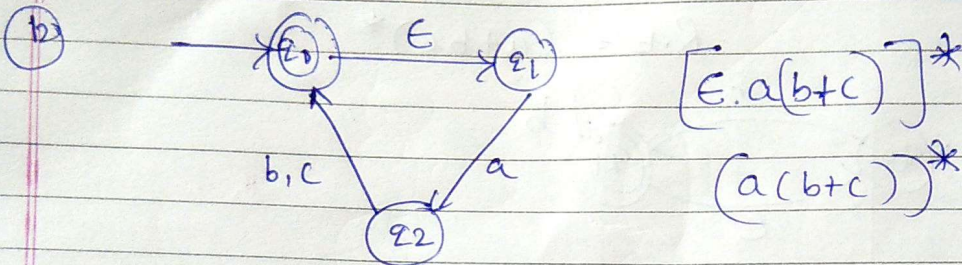
$$(a+bc^*d)^*$$



$$a(ba)^*c$$

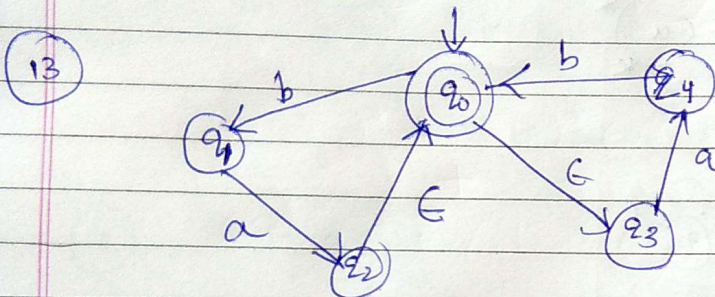


$a(b+ca)^*d$

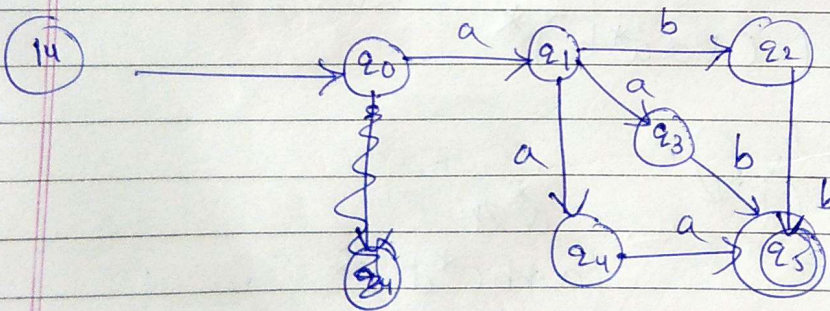


$[\epsilon.a(b+c)]^*$

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

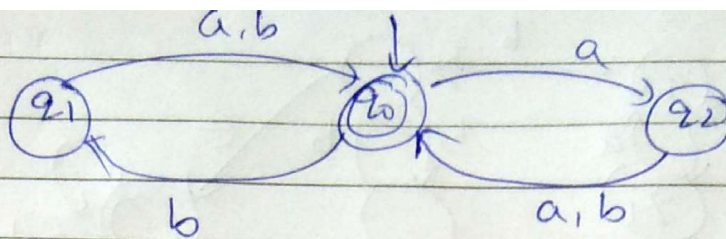


$((ba\epsilon)^* + (\epsilon ab)^*)^* = ((bat)^* + (fab)^*)^*$
 $(ba+ab)^*$



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

(15)

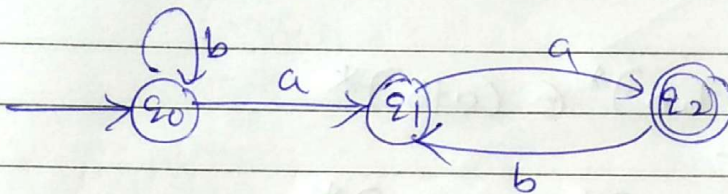


$$(a(a+b)^* \cancel{+} b(a+b)^*)^*$$

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

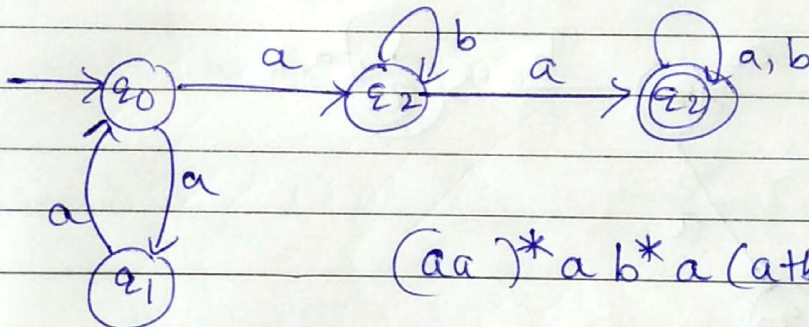
$$((a+b)^2)^*$$

(16)



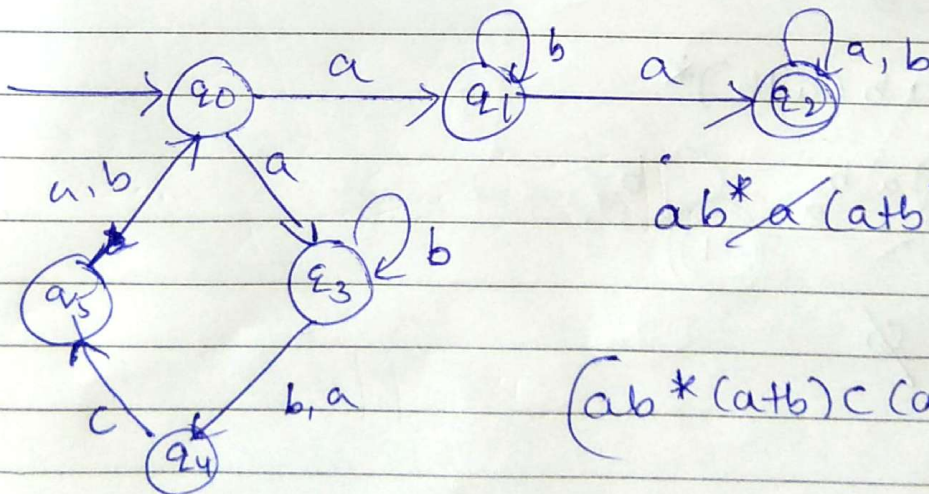
$$b^* a \cdot a (ba)^*$$

(17)



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

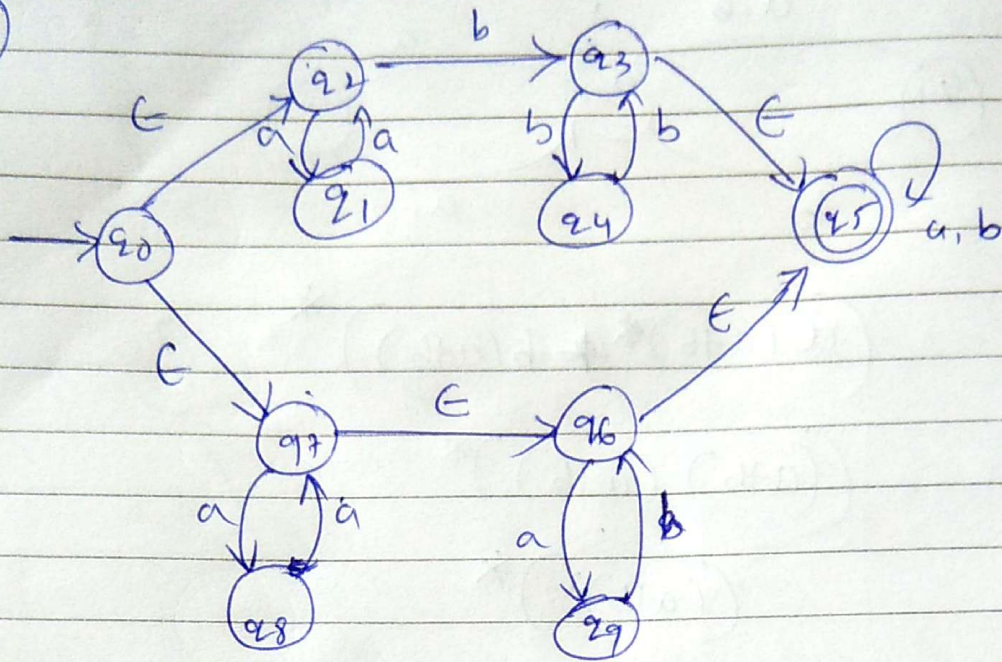
(18)



$$ab^* \cancel{a} (a+b)^* \cancel{+} (ab^* (a+b)^*)^* \cancel{+} c \cdot (a+b)^* \cancel{+}$$

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

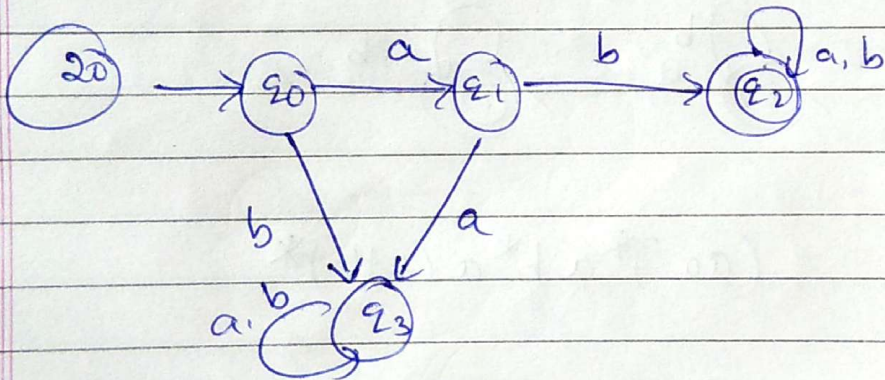
19



$$\epsilon (aa)^* b (bb)^* \epsilon (atb)^*$$

+

$$\epsilon (aa)^* \epsilon (ab)^* \epsilon (atb)^*$$



$$ab(atb)^*$$

