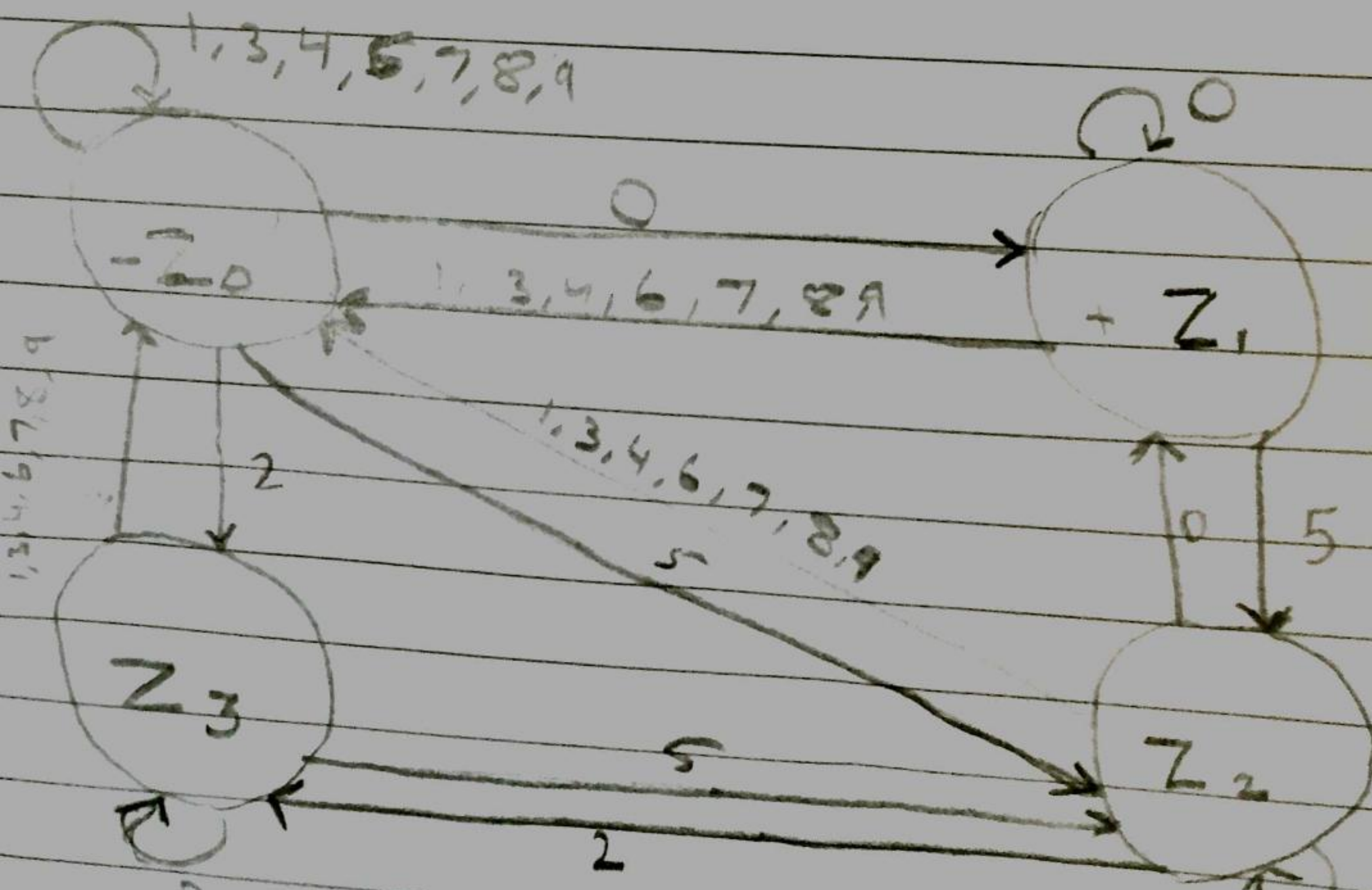


Date _____

Q1) a)

state	0	1	2	3	4	5	6	7	8	9
q_0, P_0	$[q_1, P_1]$	$[q_0, P_0]$	$[q_0, P_1]$	$[q_0, P_0]$	$[q_0, P_0]$	$[q_1, P_1]$	$[q_0, P_0]$	$[q_0, P_0]$	$[q_0, P_0]$	$[q_0, P_0]$
$+q_1, P_1$	$[q_1, P_1]$	$[q_0, P_0]$	$[q_0, P_1]$	$[q_0, P_0]$	$[q_0, P_0]$	$[q_1, P_0]$	$[q_0, P_0]$	$[q_0, P_0]$	$[q_0, P_0]$	$[q_0, P_0]$
q_0, P_1	q_1, P_1	q_0, P_0	q_0, P_1	q_0, P_0	q_0, P_0	q_1, P_0	q_0, P_0	q_0, P_0	q_0, P_0	q_0, P_0
q_1, P_0	q_1, P_1	q_0, P_0	q_1, P_1	q_0, P_0	q_0, P_0	q_1, P_0	q_0, P_0	q_0, P_0	q_0, P_0	q_0, P_0



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 AS

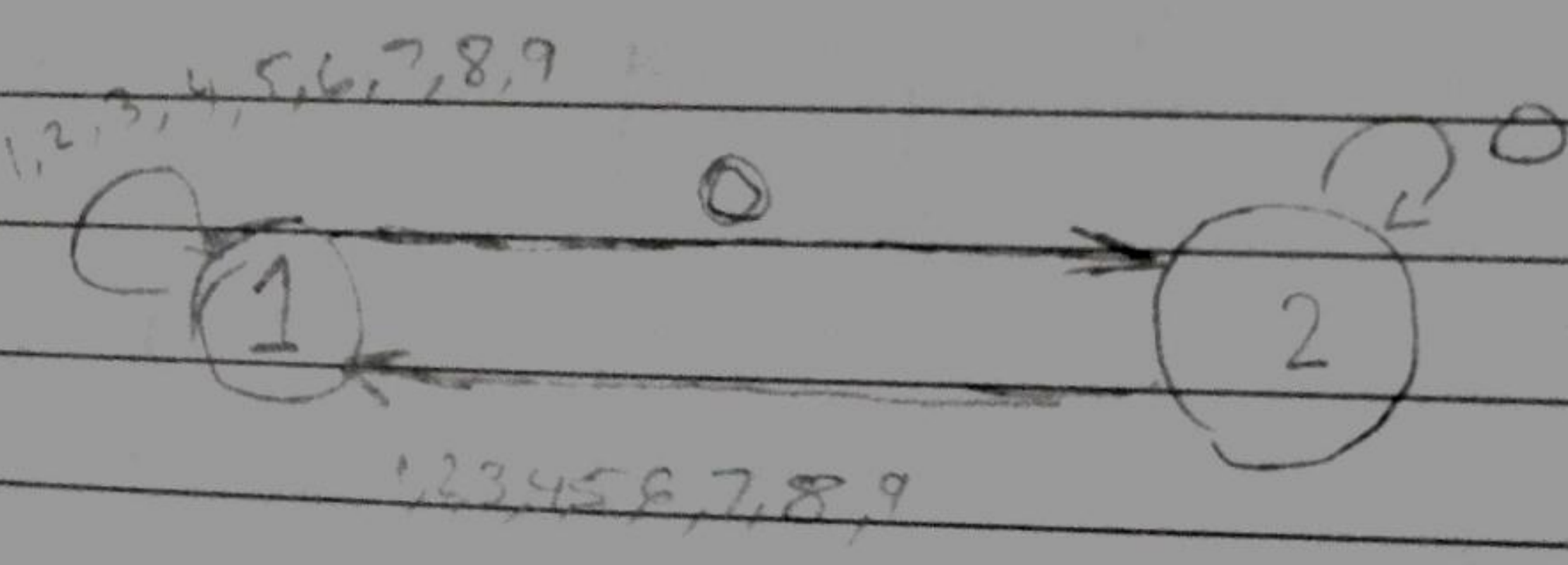
Date _____

Part 1

Part 2

b)

	Z_0	Z_1	Z_2	Z_3
0	Z_2	Z_1	Z_1	Z_1
1	Z_0	Z_0	Z_0	Z_0
2	Z_2	Z_1	Z_1	Z_1
3	Z_0	Z_0	Z_0	Z_0
4	Z_0	Z_0	Z_0	Z_0
5	Z_2	Z_2	Z_2	Z_2
6	Z_0	Z_0	Z_0	Z_0
7	Z_0	Z_0	Z_0	Z_0
8	Z_0	Z_0	Z_0	Z_0
9	Z_0	Z_0	Z_0	Z_0



Q2)

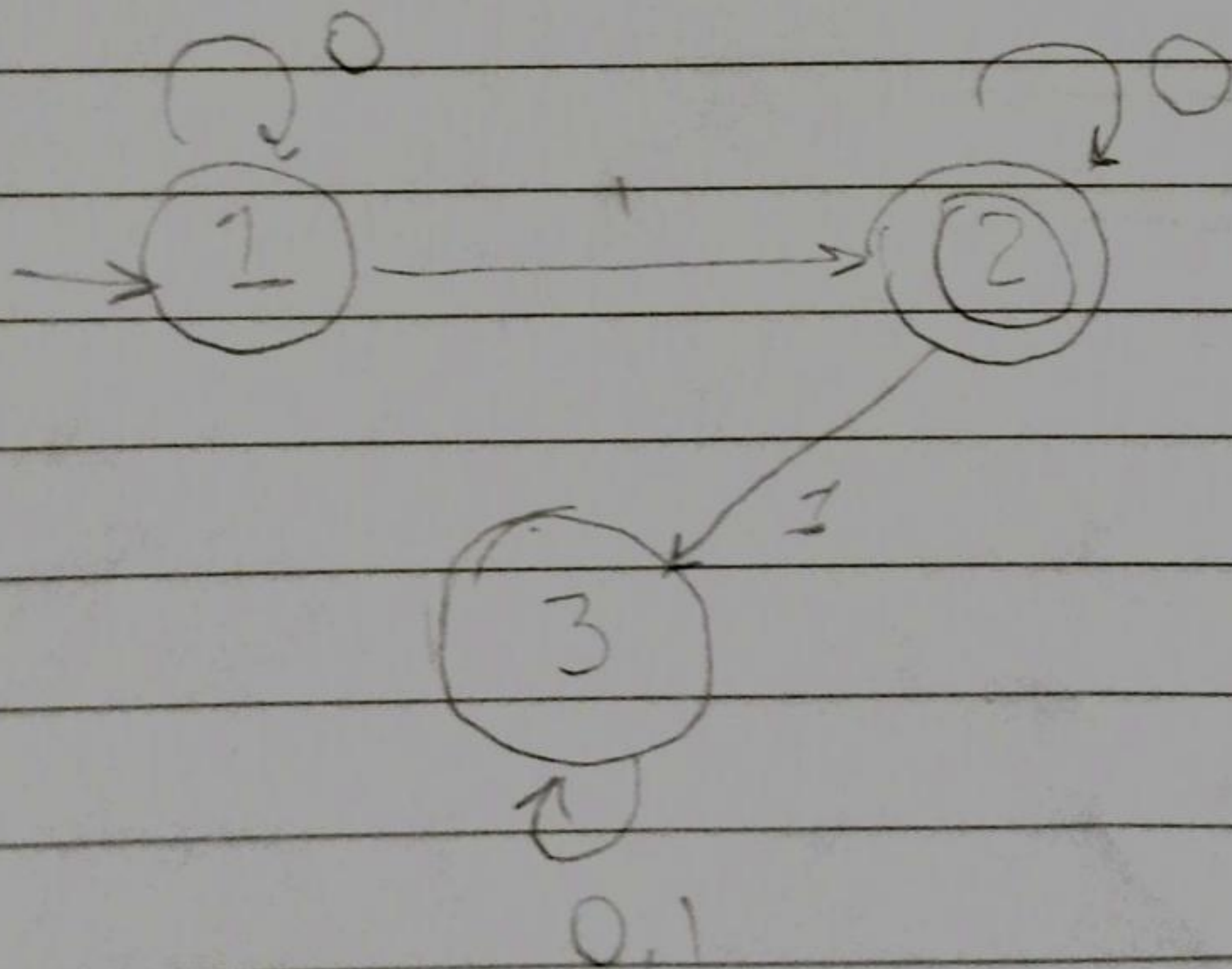
1	a	b (1)	c (2)
	b	a (1)	d (2)
	f	f (1)	f (1)

2	c	e (2)	f (1)
	d	e (2)	f (1)
	e	e (2)	f (1)

1	a	b (1)	c (2)
	b	a (1)	d (2)

3	f	f (3)	f (3)
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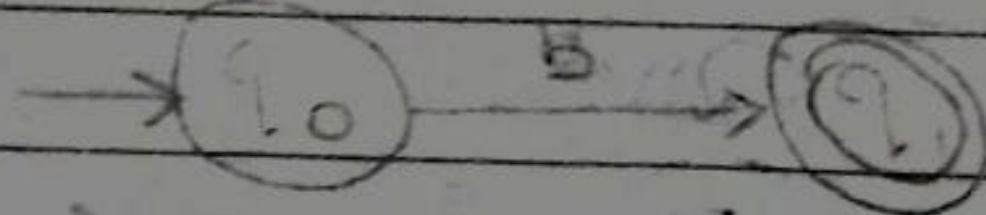
2	c	e (2)	f (3)
	d	e (2)	f (3)
	e	e (2)	f (3)



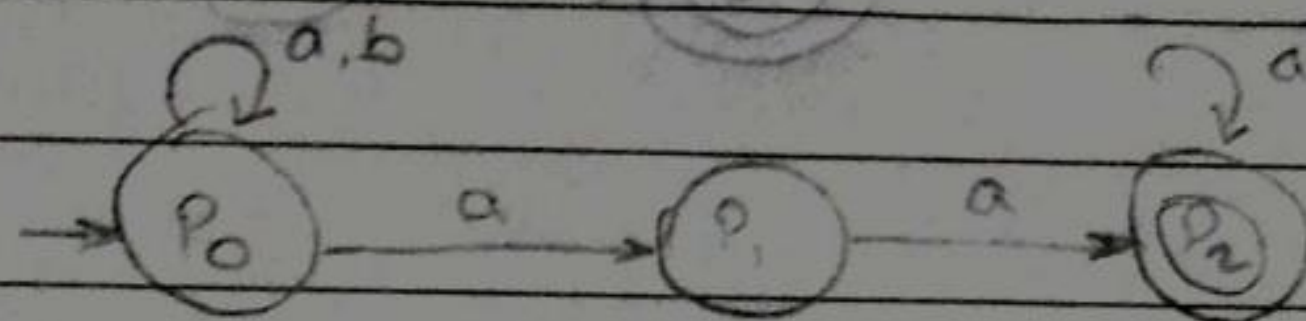
Q3) $RE_1 = (a+b)^*.b$

$RE_2 = (a+b)^*.aa.(a+b)^*$

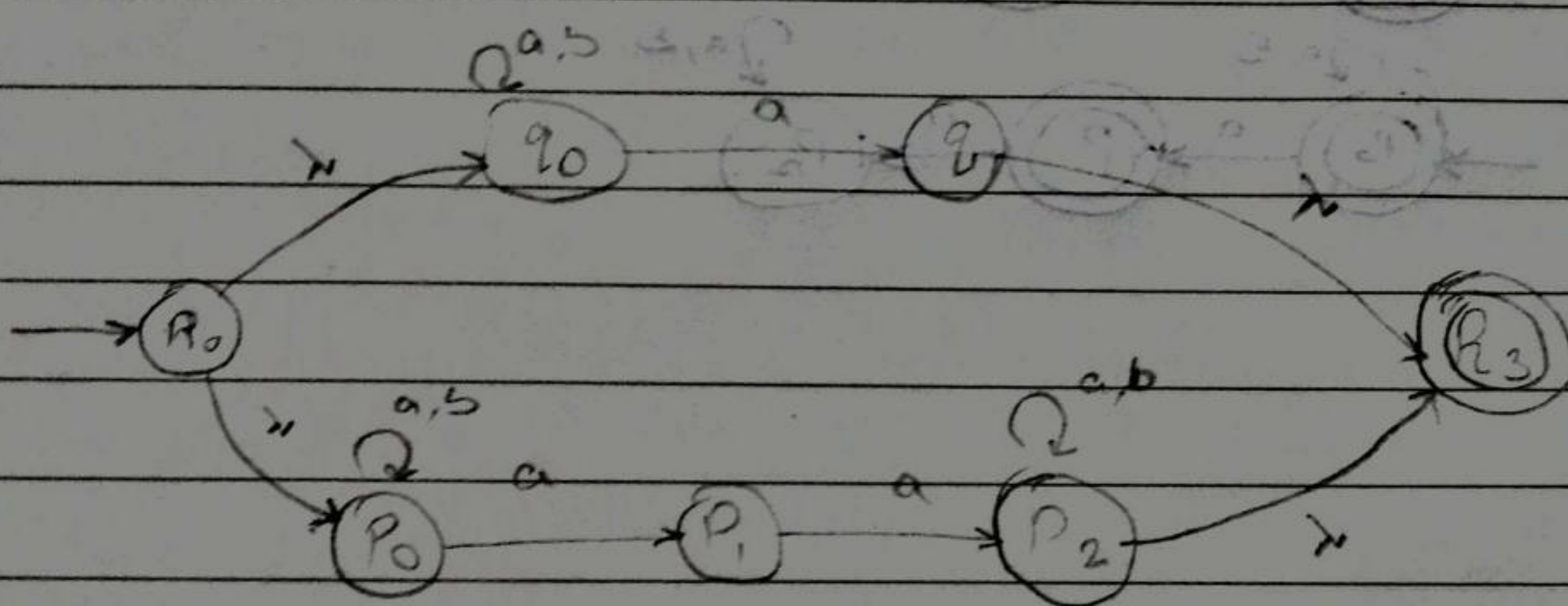
NFA $_{RE_1}$ =



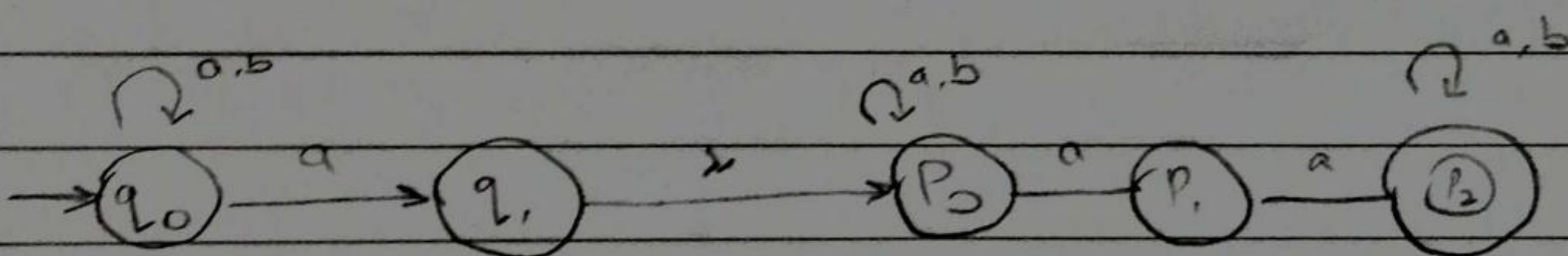
NFA $_{RE_2}$ =



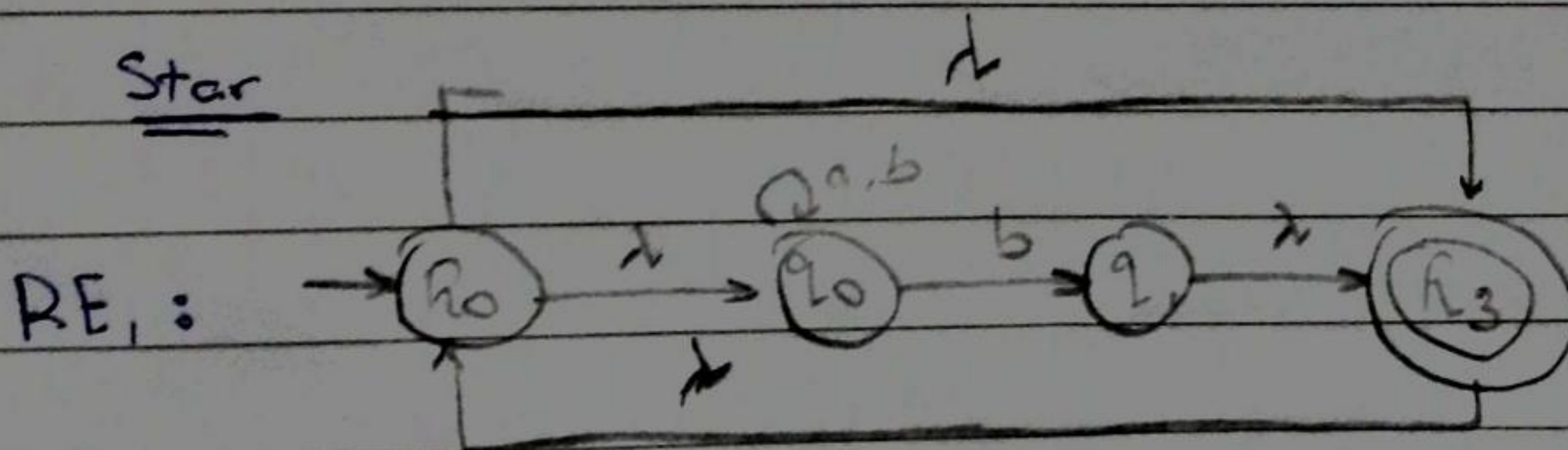
a) Union



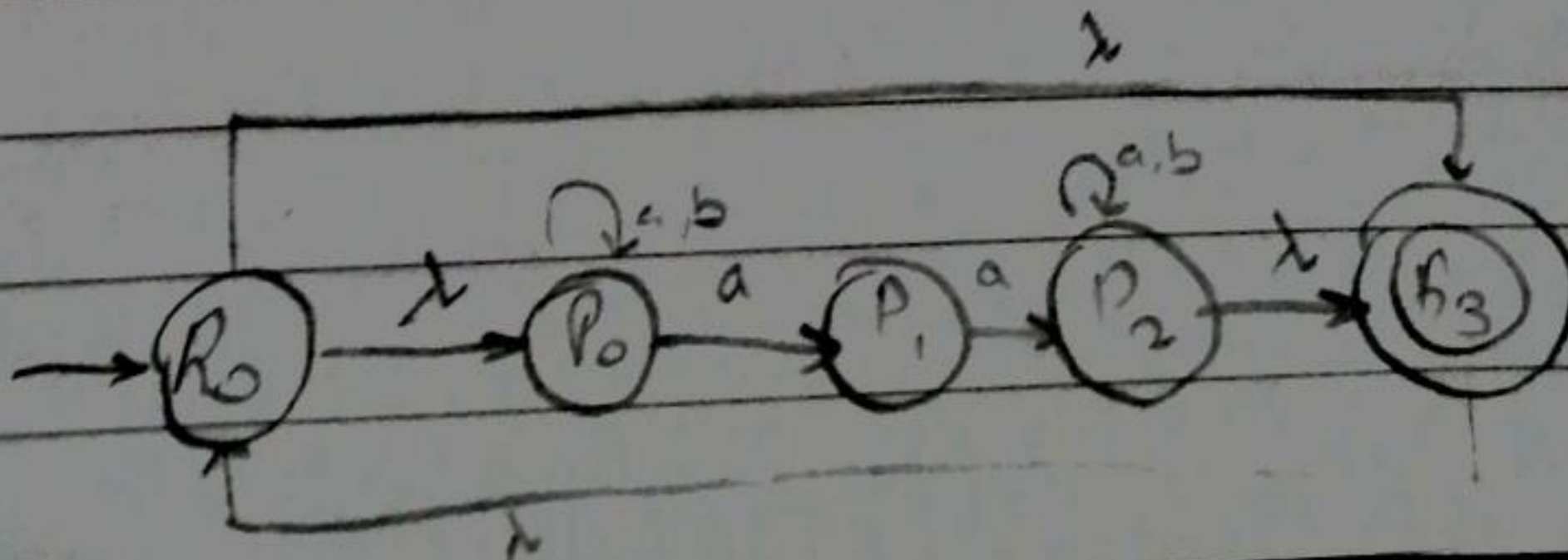
b) Concatenation



c) Star

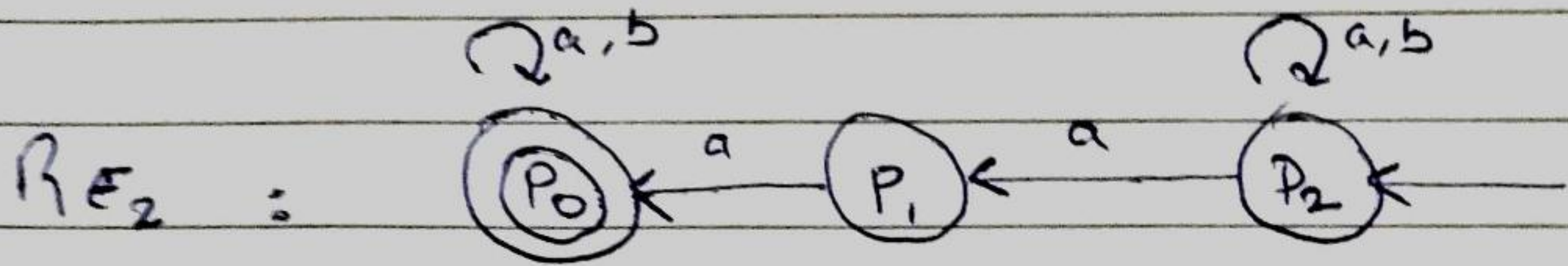
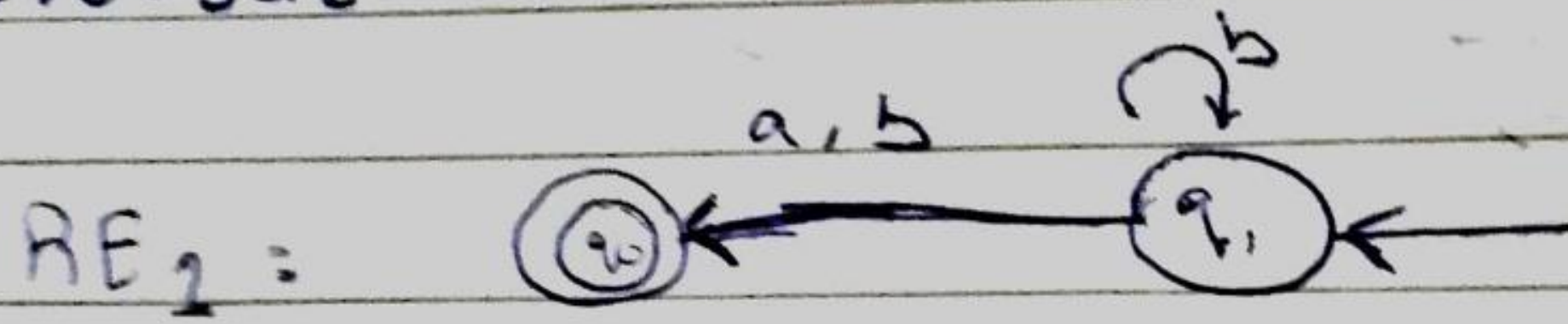


$RE_2 :$



Date _____

c) Reversal



d) Complement

