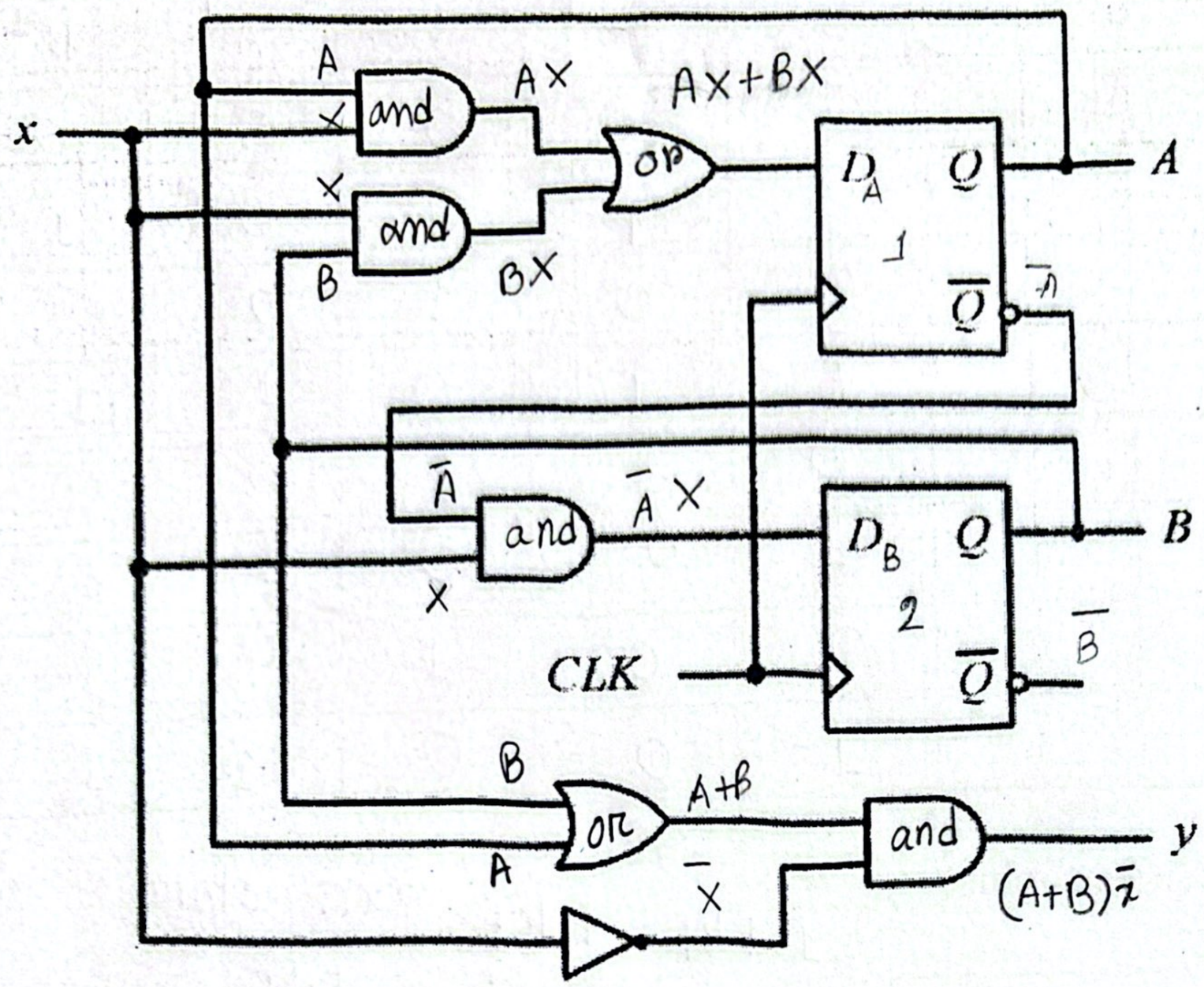
Draw the state diagram of the given circuit:



i. How many flip-flops are there? =>

ii.

Present State(s)	A, B or (A(t), B(t))
Next State(s)	A+ , B+ or (A(t+1), B(t+1))
Input(s)	Da, Db, x
Output(s)	y

iii. Equations:

Da	$Ax + Bx$
Db	$\overline{A}x$
y	$(A+B)\overline{x}$

iv + v.

A	B	x	Da	Db	y	A^+	B^+
0	0	0	0	0	0	0	0
0	0	1	0	1	0	0	1
0	1	0	0	0	1	0	0
0	1	1	1	1	0	1	1
1	0	0	0	0	1	0	0
1	0	1	1	0	0	1	0
1	1	0	0	0	1	0	0
1	1	1	1	0	0	1	1

D Flip-Flop Characteristic Table:

Q(t) [Present State]	D	Q(t + 1) [Next State]
0	0	0
0	1	1
1	0	0
1	1	1

vi. State Diagram: