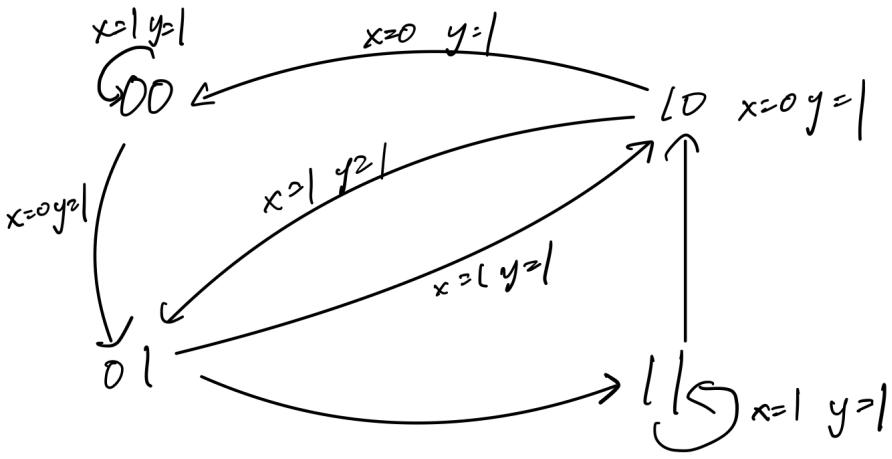
Q1

1.

A(t)	B(t)	x(t)	A(t+1)	B(t+1)	y
0	0	0	0	1	1
0	0	1	0	0	1
0	1	0	1	1	1
0	1	1	1	0	1
1	0	0	0	0	1
1	0	1	0	1	1
1	1	0	1	0	1
1	1	1	1	1	1

2.



Q2

1. We need 2 XOR gates

   T=0.05*2=1ns

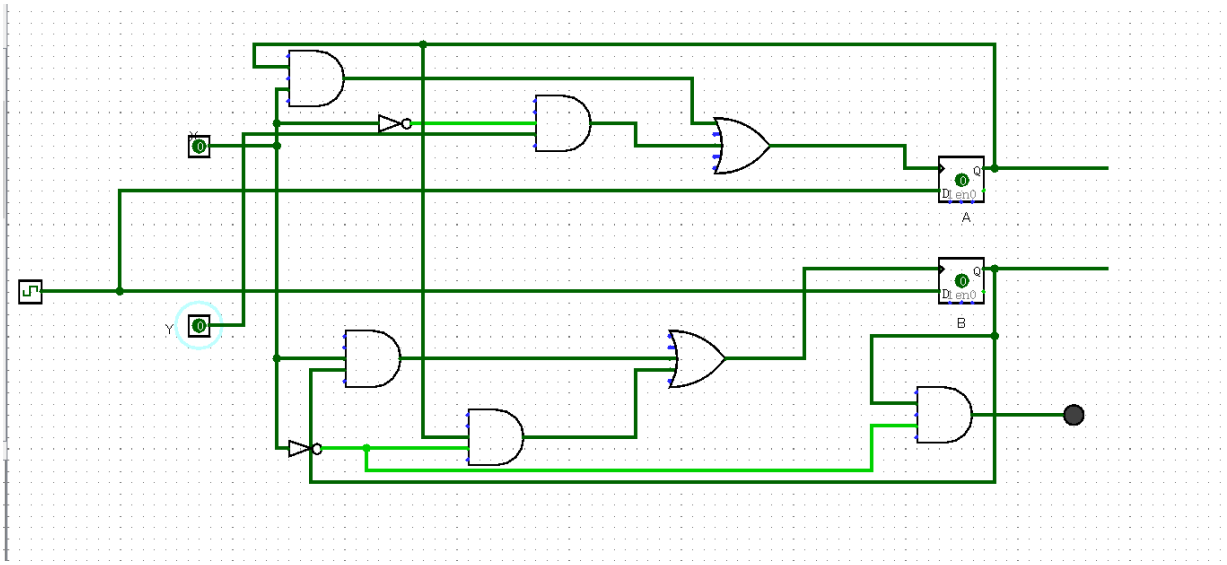
2. We need 1 XOR gates 1 Inverter ;

   T = 0.02+0.02+0.05=0.09ns

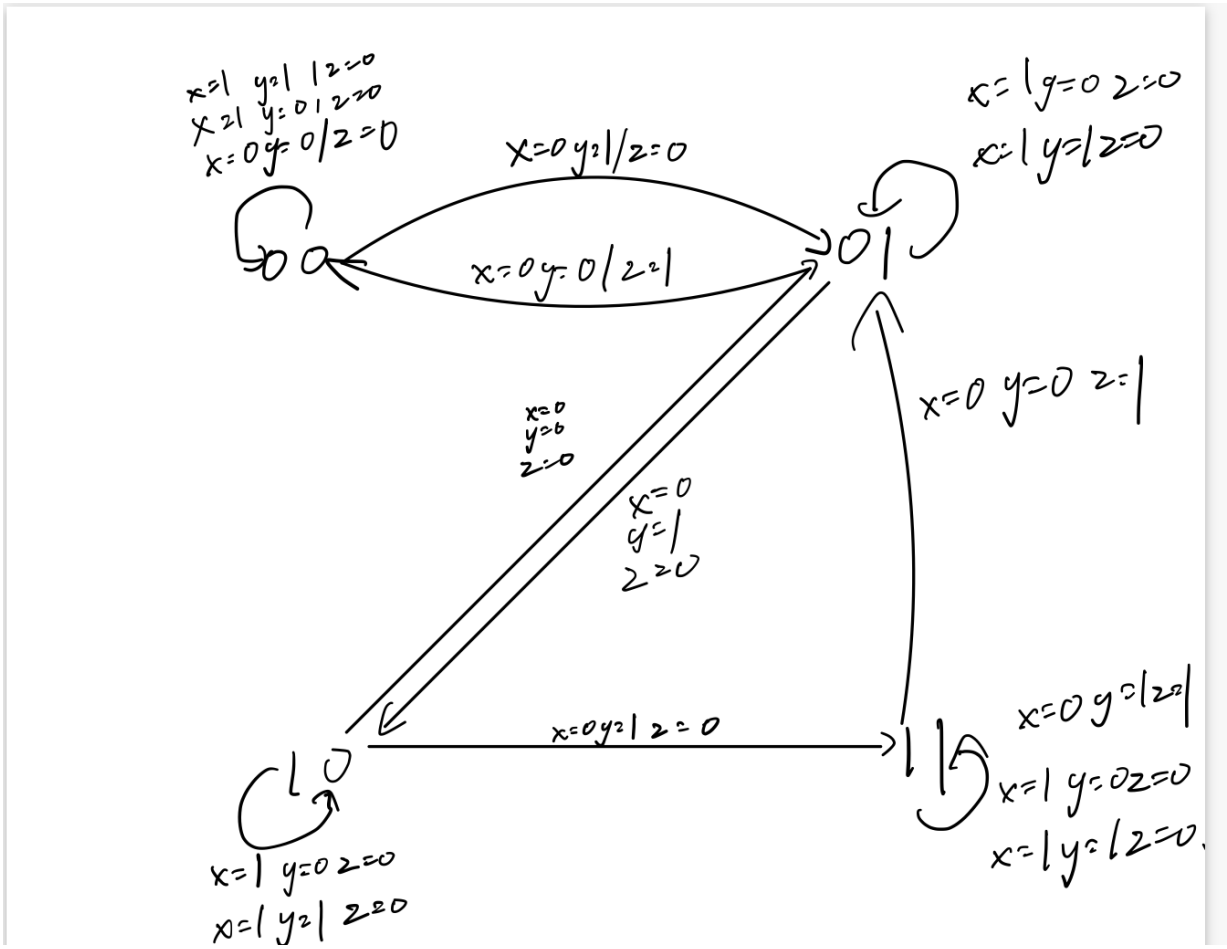
3. 0.08+0.01=0.09ns;
4. 0.08+0.02+0.01=0.11ns
5. 5*10^(-9) mhz

Q3

1.



2.

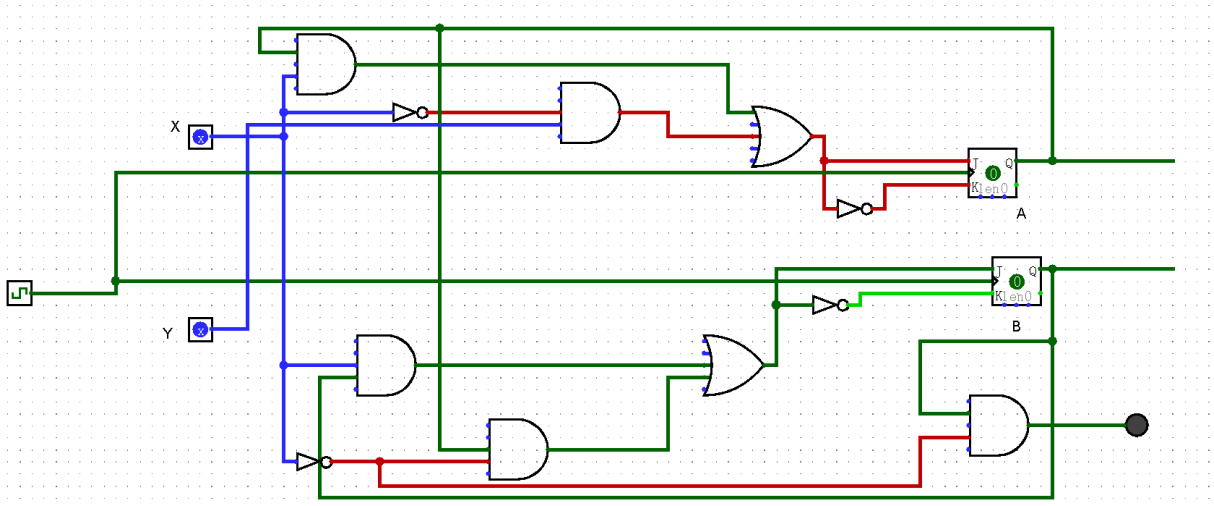


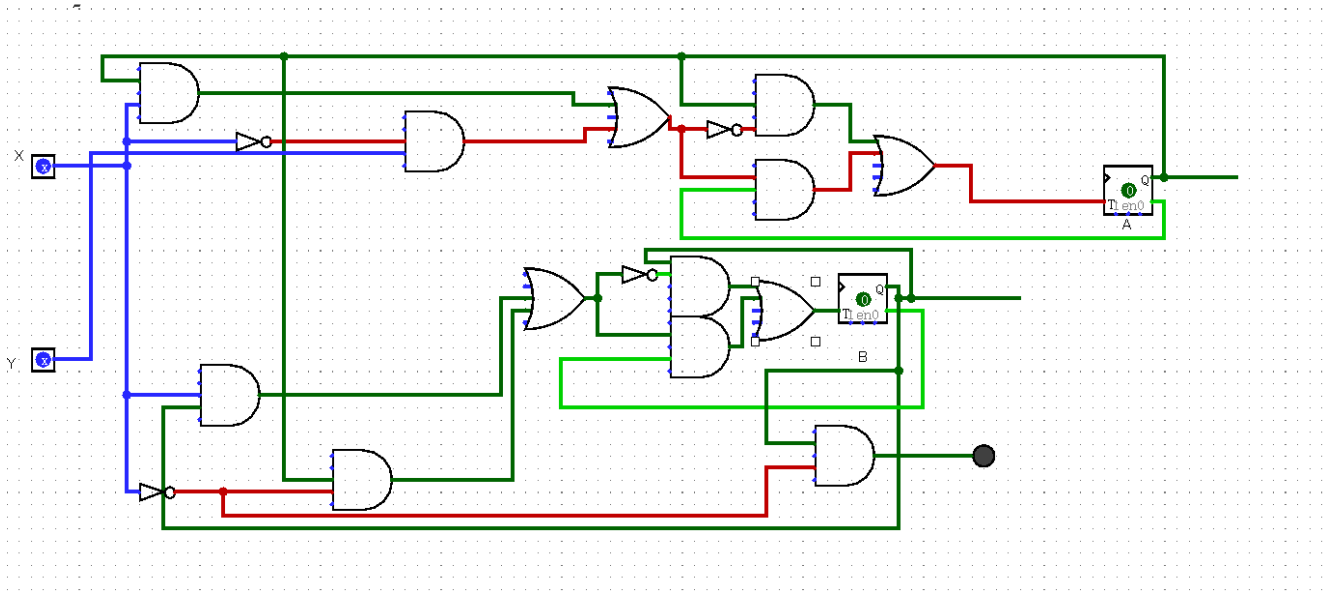
3.

A (t)	B(t)	X	Y	A(t+1)	B(t+1)	Z
0	0	0	0	0	0	0
0	0	0	1	1	0	0
0	0	1	0	0	0	0
0	0	1	1	0	0	0
1	0	0	0	0	1	0
1	0	0	1	1	1	0
1	0	1	0	1	0	0

A (t)	B(t)	X	Y	A(t+1)	B(t+1)	Z
1	0	1	1	1	0	0
0	1	0	0	0	0	1
0	1	0	1	1	0	1
0	1	1	0	0	1	0
0	1	1	1	0	1	0
1	1	0	0	0	1	1
1	1	0	1	1	1	1
1	1	1	0	1	1	0
1	1	1	1	1	1	0

4.





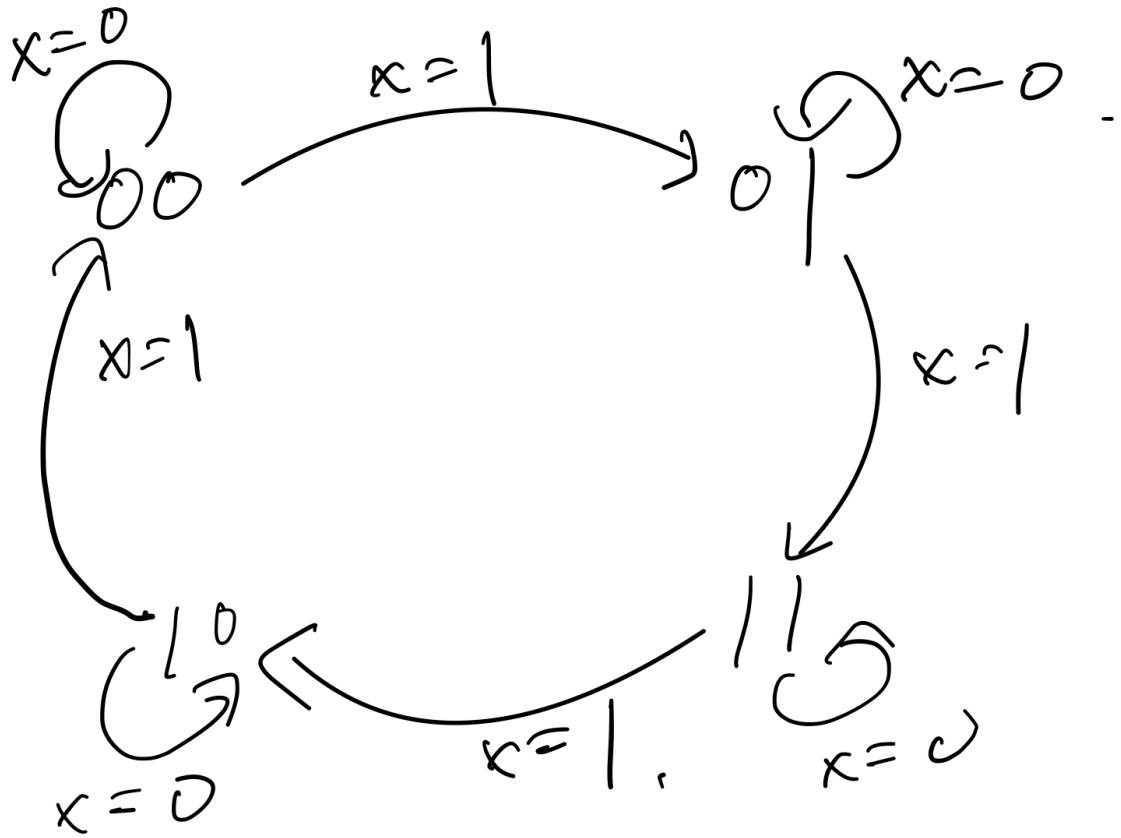
Q4：

1.

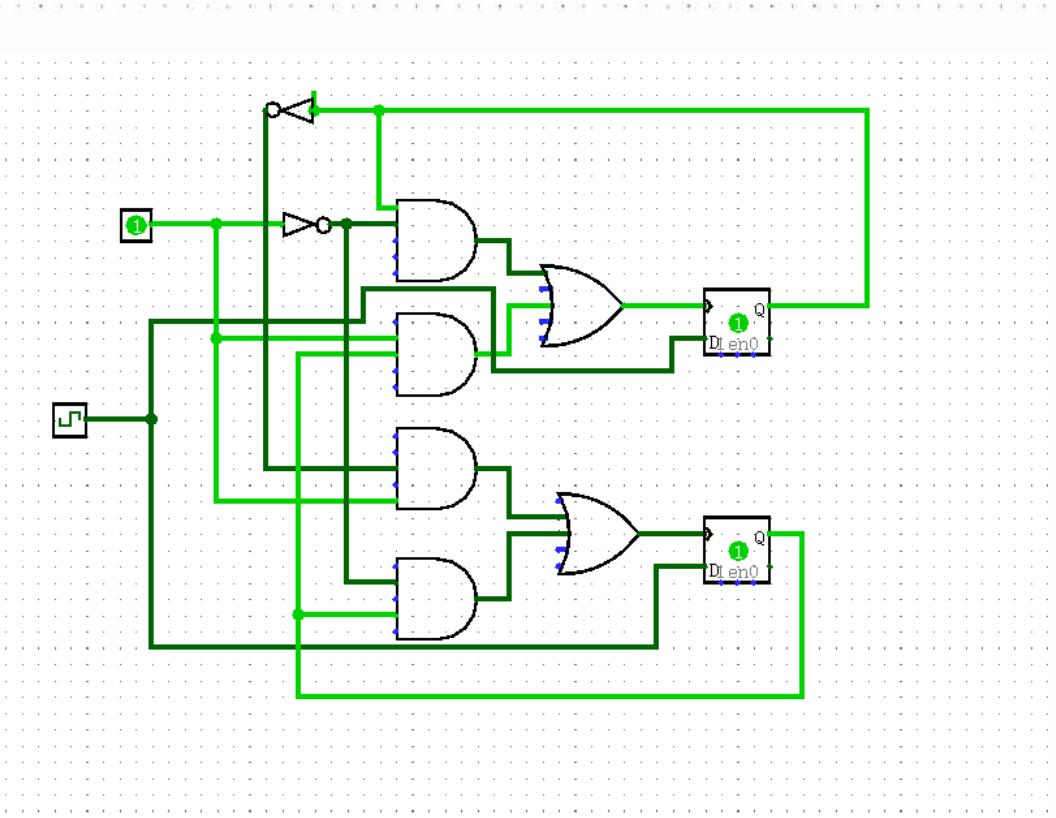
A	B	x	A(t+1)	B(t+1)

A	B	x	A(t+1)	B(t+1)
0	0	0	0	0
0	1	0	0	1
1	1	0	1	1
1	0	0	1	0
0	0	1	0	1
0	1	1	1	1
1	1	1	1	0
1	0	1	0	0

2.



3.


Q
D
en
Q
D
en