

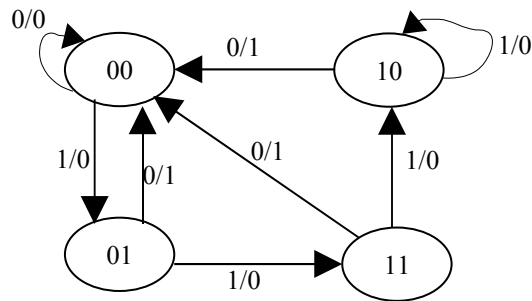
(0360-265) Computer Architecture
QUIZ – 4 IS 2008 (Time: 20 mins)

Student's Name:
Student Number:

Q1. A sequential circuit has

- two JK flip-flops A and B with inputs J_A, K_A and J_B, K_B respectively
- one output Y, and,
- one input X

The state diagram of the sequential circuit is given as follows:



Draw the State Table showing the following:

- | | |
|--|---------------------------------------|
| (i) Present State of the two JK Flip-flops | (ii) Input |
| (iii) Next State of the two JK Flip-flops | (iv) Output (v) J_A (vi) K_A |

Solution:

QA(t)	QB(t)	X	QA(t+1)	QB(t+1)	Y	JA	KA	JB	KB
0	0	0	0	0	0	0	x	0	x
0	0	1	0	1	0	0	x	1	x
0	1	0	0	0	1	0	x	x	1
0	1	1	1	1	0	1	x	x	0
1	0	0	0	0	1	x	1	0	x
1	0	1	1	1	0	x	0	1	x
1	1	0	0	0	1	x	1	x	1
1	1	1	1	0	0	x	0	x	1