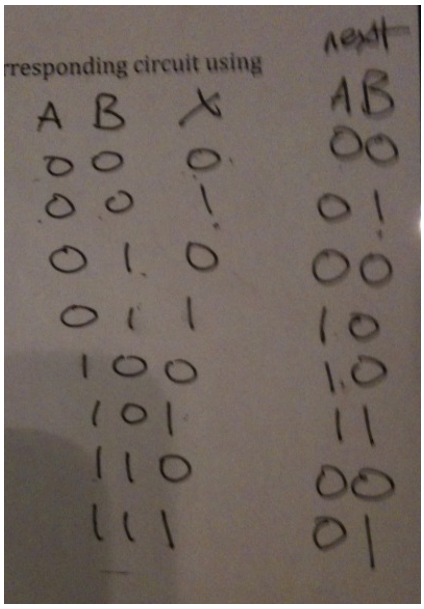
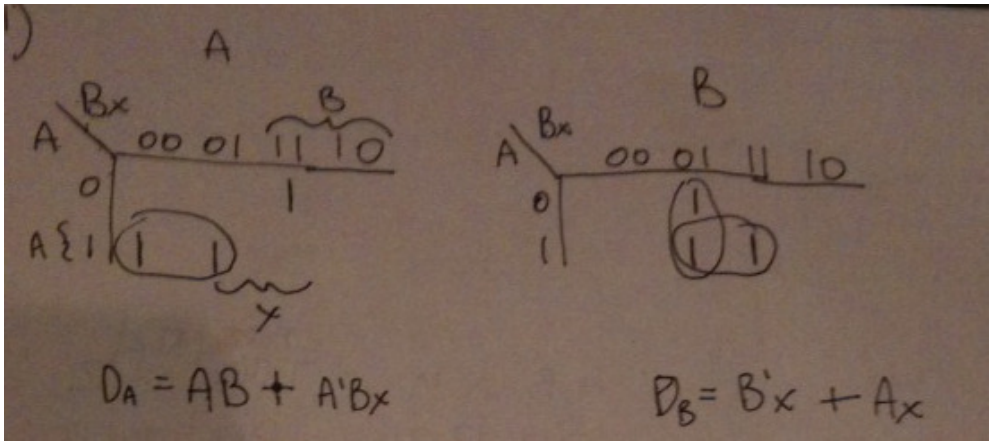
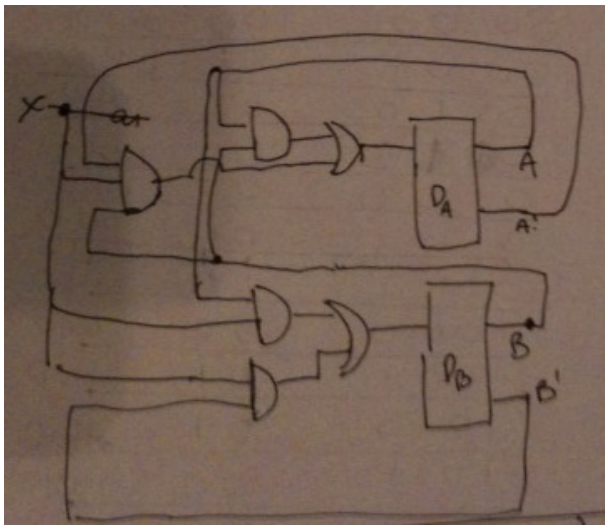
1.)
State table



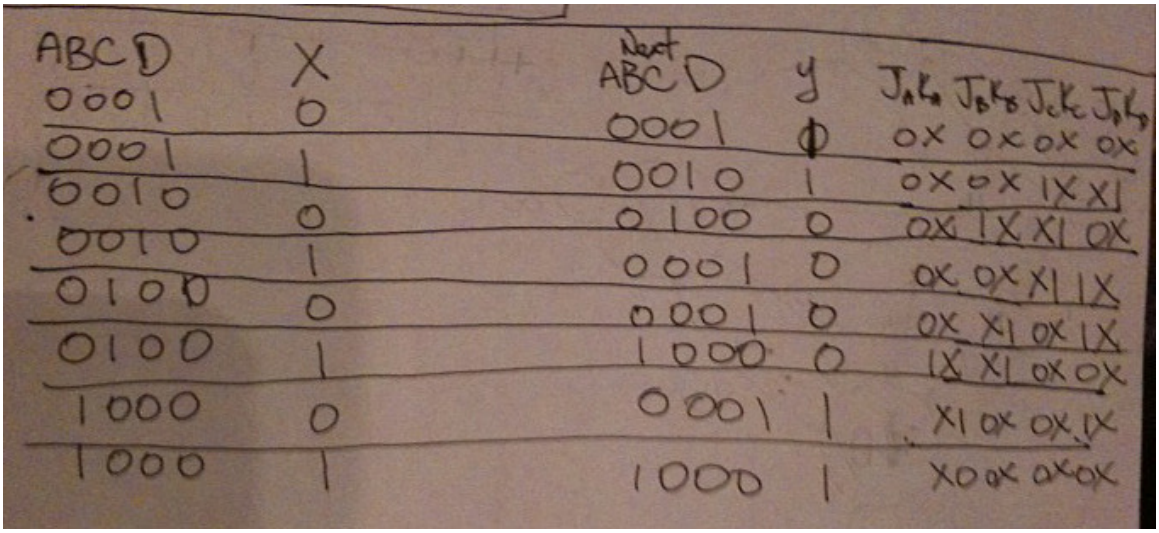
Karnaugh maps



Circuit

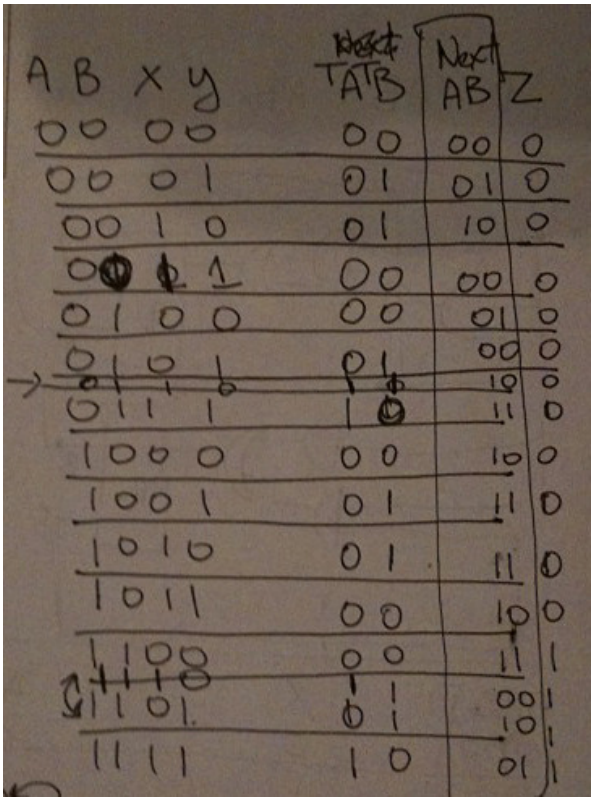


2.)

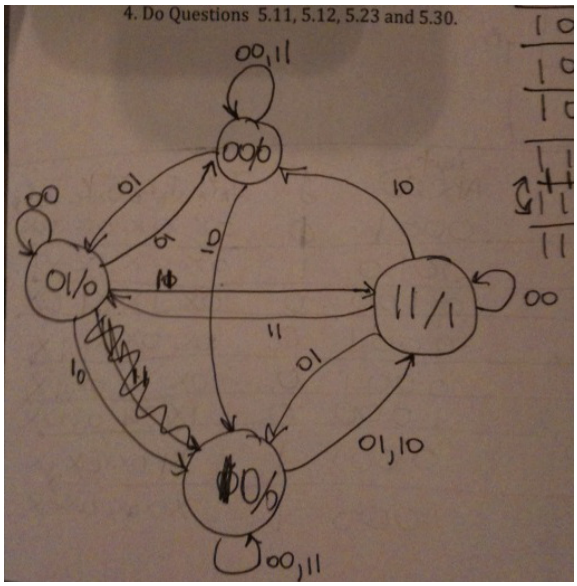


ABCD	X	Next ABCD	y	$J_A K_A$ $J_B K_B$ $J_C K_C$ $J_D K_D$
0001	0	0001	0	0X 0X 0X 0X
0001	1	0010	1	0X 0X 1X X1
0010	0	0100	0	0X 1X X1 0X
0010	1	0001	0	0X 0X X1 1X
0100	0	0001	0	0X X1 0X 1X
0100	1	1000	0	1X X1 0X 0X
1000	0	0001	1	X1 0X 0X 1X
1000	1	1000	1	X0 0X 0X 0X

3.)



A B	x y	Next TATB	Next AB	Z
00	00	00	00	0
00	01	01	01	0
00	10	01	10	0
00	11	00	00	0
01	00	00	01	0
01	01	01	01	0
01	10	11	11	0
01	11	10	11	0
10	00	00	10	0
10	01	01	11	0
10	10	01	11	0
10	11	00	10	0
11	00	00	11	1
11	01	01	00	1
11	11	10	01	1



See back of the text for solutions to the * text problems.