

King Fahd University of Petroleum & Minerals

College of Computer Sciences and Engineering

Department of Computer Engineering

COE 202: Fundamentals of Computer Engineering (071)

Assignment 6

1. Write the state diagram for a circuit that if the input 1010 overlapping the output will be 1.
2. Reduce the number of states in the following state table and tabulate the reduced state table.

Present state	Next state		Output	
	$x = 0$	$x = 1$	$x = 0$	$x = 1$
<i>a</i>	<i>f</i>	<i>b</i>	0	0
<i>b</i>	<i>d</i>	<i>c</i>	0	0
<i>c</i>	<i>f</i>	<i>e</i>	0	0
<i>d</i>	<i>g</i>	<i>a</i>	1	0
<i>e</i>	<i>d</i>	<i>c</i>	0	0
<i>f</i>	<i>f</i>	<i>b</i>	1	1
<i>g</i>	<i>g</i>	<i>h</i>	0	1
<i>h</i>	<i>g</i>	<i>a</i>	1	0

3. Starting from state 'a' of the state table above, find the output sequence generated with an input sequence 01110010011.