

# CSE435 Introduction to EDA & Testing - Spring 2022

## Homework Assignment #5

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1. (20%) A circuit has the truth table of Table 1a. When there is a fault (faults) on the circuit, the faulty truth table becomes Table 1b. Try to derive tests to detect the fault (faults).

		AB			
		00	01	11	10
CD	00	1			
	01		1	1	
	11				1
	10			1	1

Table 1a

		AB			
		00	01	11	10
CD	00				
	01		1	1	
	11				
	10	1		1	1

Table 1b

**Solution:**

2. (80%) Generate a test for the fault f-sa1 in Figure 1 by the following FOUR methods. Be sure to give the **key steps to show the features of every algorithm**, and also **draw the decision trees** for each case.
- (20%) Use the **Boolean difference method** to derive all the test patterns to detect the fault f-sa1.
  - (20%) Generate a test for the fault f-sa1 by using **D-algorithm**.
  - (20%) Generate a test for the fault f-sa1 by using **9-V Algorithm**.
  - (20%) Generate a test for the fault f-sa1 by using **PODEM algorithm**.

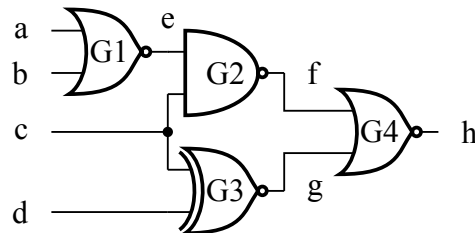


Figure 1