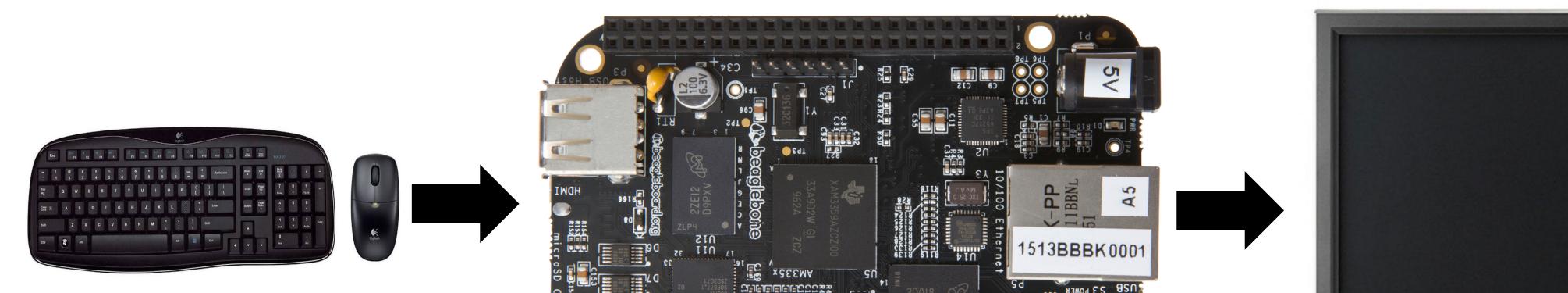
TESTING OF DIGITAL CIRCUITS USING BEAGLEBONE BLACK

BLOCK DIAGRAM





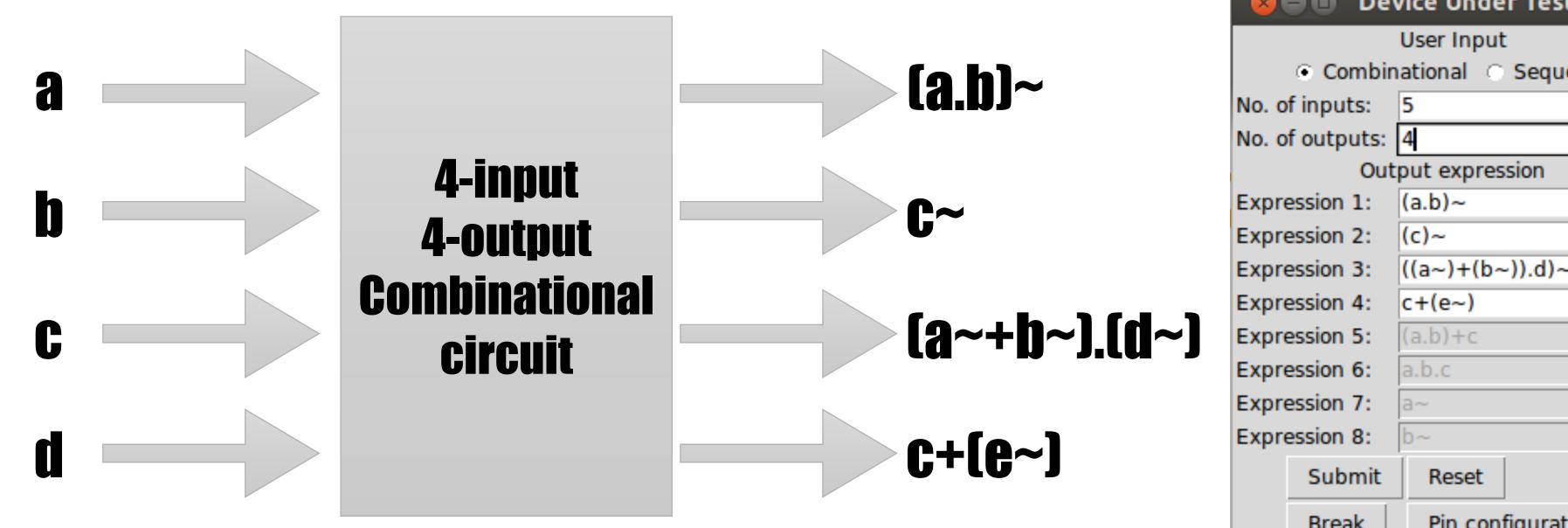




COMBINATIONAL CIRCUITS

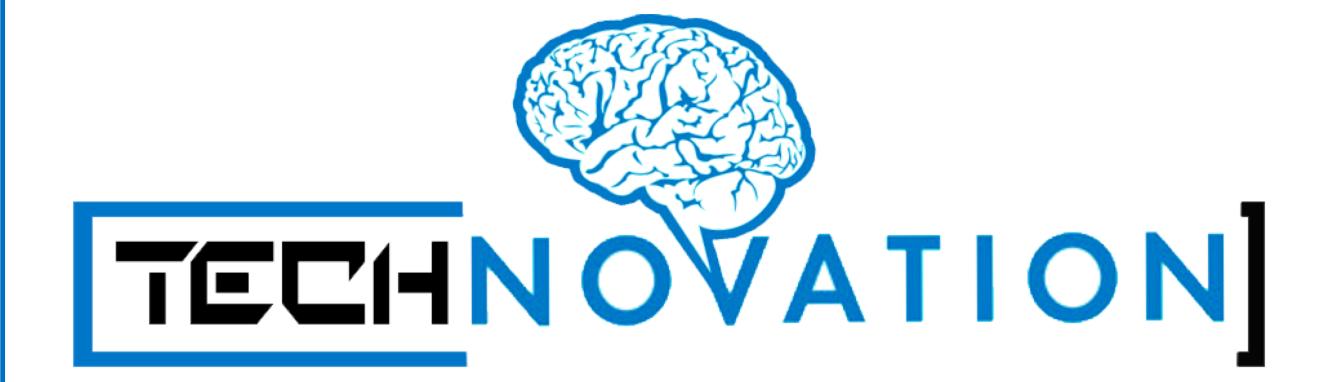
Algorithm:

- 1. Define software model of combinational circuit
- 2. Input and output pin configuration
- 3. Generate test input pattern
- 4. Verify the experimental and theoretical output of circuit
- 5. Print error report



😣 🗖 🗊 De	vice Under Test				_	
	User Input 😞					
Combine Com	national 🔿 Sequential					
No. of inputs:	5					
No. of outputs: 4		Inp	Input		Output	
Out	put expression	Input 1	1	Output 1		
Expression 1:	(a.b)~	Input 2	2	Output 2		
Expression 2:	(c)~	Input 3	3	Output 3	11 🚔	
Expression 3:	((a~)+(b~)).d)~	Input 4	4	Output 4	12 🚔	
Expression 4:	c+(e~)	Input 5	5 🚔	Output 5		
Expression 5:	(a.b)+c	Input 6	6	Output 6		
Expression 6:	a.b.c	Input 7	7 🚔	Output 7		
Expression 7:	a~	Input 8	8	Output 8	16 🛢	
Expression 8:	b~	Assign	Reset			
Submit	Reset					
Break	Pin configuration					





SEQUENTIAL CIRCUIT

Algorithm:

- 1. Define State Transition Graph (adjacency matrix, input and output corresponding to each transition)
- 2. Generate input test pattern for shortest closed path that visits every edge of directed graph
- 3. Verify the experimental and theoretical output of circuit
- 4. Print error report at faulty transition

😣 🗐 🗊 DUT (Sequential circuits)

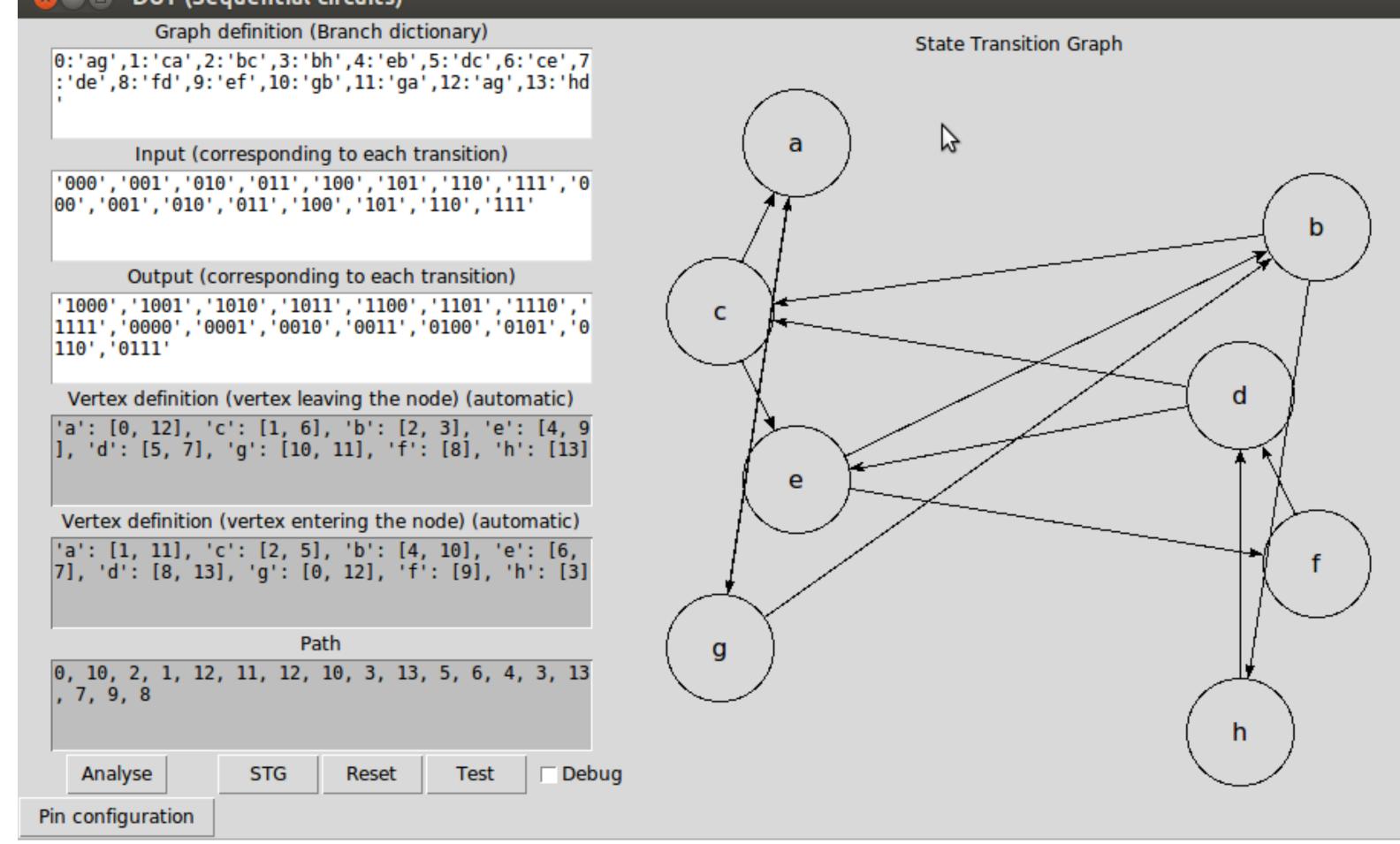
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