VDF Assignment-4 Report
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Q1 →

ATPG Tool Run Screenshot :

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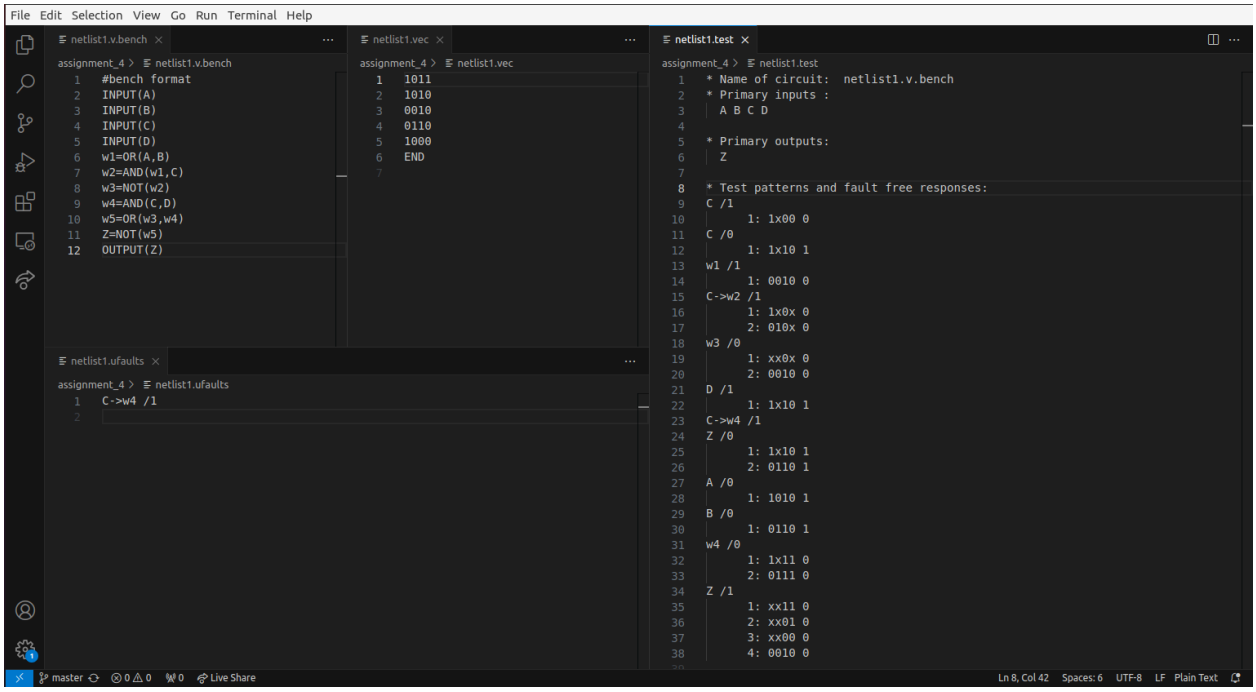
animesh@dell-OptiPlex-3040:~/vdf/assignment_4$ atalanta
Invalid command line options.
To see on-line manual, use the following commands:
        For the user's guide, type "atalanta -h g"
        For the netlist format, type "atalanta -h n"
        For the test file format, type "atalanta -h t"
        For the fault list file format, type "atalanta -h f"
        For the entire manual, type "atalanta -h a"
animesh@dell-OptiPlex-3040:~/vdf/assignment_4$
```

Q-2 →

Bench Netlist, Test Patterns Generated (Patterns and analysis) and Undetected Faults:



Undetected Faults = 1

Manual fault analysis : (single fault)

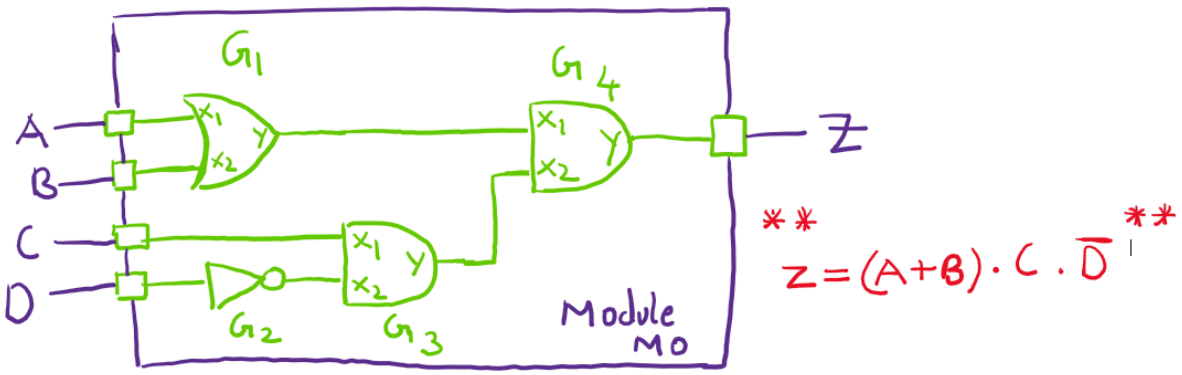
Required test vectors(A,B,C,D) => 1111, 1010,0110, 0010, 1100

Table** : ** (x stands for don't cares) { x = 0 or 1 } (A,B,C,D) (Z)

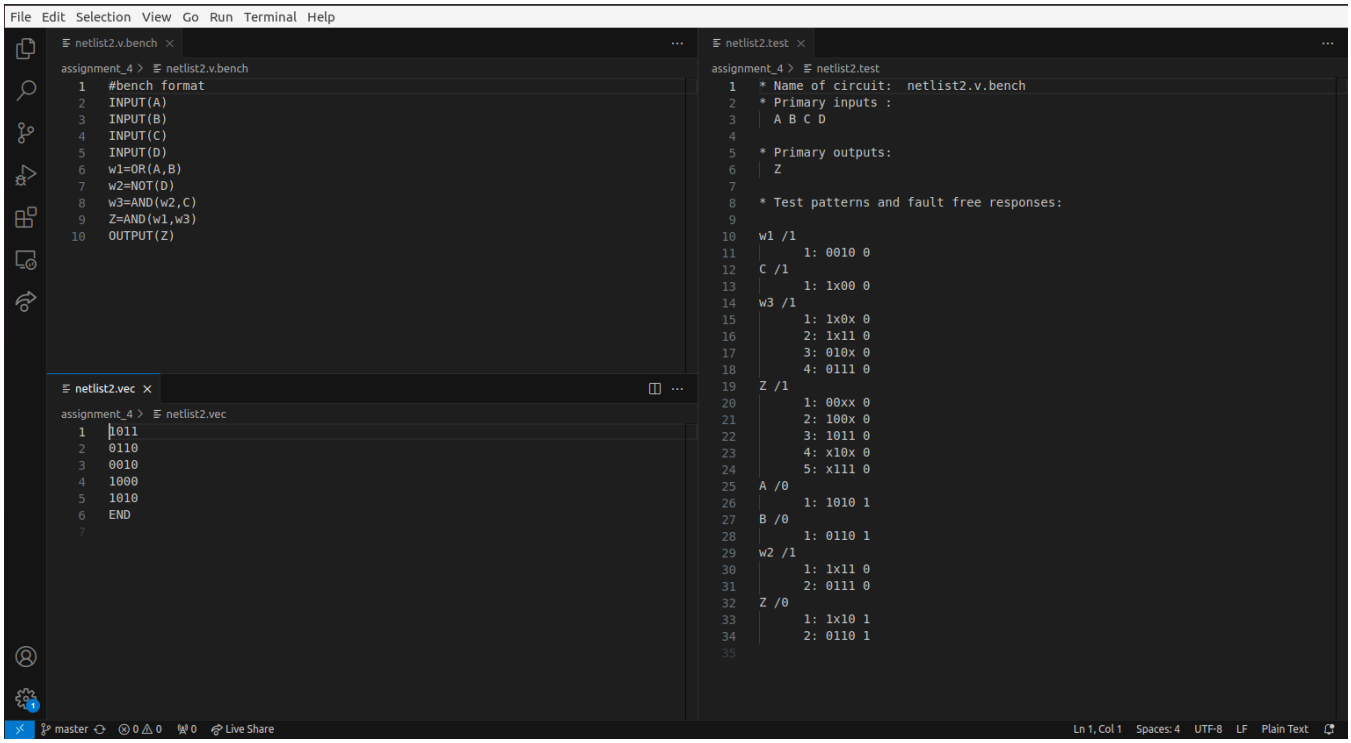
Fault Site	Fault Type	Test Pattern reported by Tool	Test Pattern Manually Computed
A or G1(X1)	SA0	1010 (1)	1010 (1)
	SA1	NO REPORT	0010 (0)
B or G1(X2)	SA0	0110 (1)	0110 (1)
	SA1	NO REPORT	0010 (0)
C (input to design) or (G2(X1) && G3(X2))	SA0	1x10 (1)	1x10 or x110 (1)
	SA1	1x00 (0)	1x00 or x100 (0)
G2(X1)	SA0	1x11 or 0111 (0)	1x11 or x111 (0)
	SA1	U Fault Site	CAN'T Be TESTED (No Impact on functionality)
G3(X2)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	NO REPORT	1x00 or x100 or 1x01 or x101 (0)
D or G2(X2)	SA0	NO REPORT	1x11 or x111 (0)
	SA1	1x10 (1)	1x10 or x110 (1)
G1(Y) or G3(X1)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	0010 (0)	0010 (0)
G2(Y) or G4(X2)	SA0	NO REPORT	1x11 or x111 (0)
	SA1	NO REPORT	1x10 or x110 (1)
G3(Y)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	1x0x or 010x (0)	0010 or xx0x (0)
G3(~Y) or G4(X1)	SA0	0010 or xx0x (0)	0010 or xx0x (0)
	SA1	NO REPORT	1x10 or x110 (1)
G4(Y)	SA0	1x11 or 0111 (0)	0010 or xxx1 or xx00 (0)
	SA1	NO REPORT	1x10 or x110 (1)
Z or G4(~Y)	SA0	1x10 or 0110 (1)	1x10 or x110 (1)
	SA1	xx11 or xx01 or xx00 or 0010 (0)	0010 or xxx1 or xx00 (0)

Q-3 →

New schematic :



Bench Netlist, Test Patterns Generated (Patterns and analysis) and Undetected Faults:



Undetected Faults = 0

Manual fault analysis : (single fault)

Required test vectors(A,B,C,D) => 1111, 1010,0110, 0010, 1100

Table** :
** (x stands for don't cares) { x = 0 or 1 }

Fault Site	Fault Type	Test Pattern reported by Tool	Test Pattern Manually Computed (A,B,C,D)
A or G1(X1)	SA0	1010 (1)	1010 (1)
	SA1	NO REPORT	0010 (0)
B or G1(X2)	SA0	0110 (1)	0110 (1)
	SA1	NO REPORT	0010 (0)
C or G3(X1)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	1x00 (0)	1x00 or x100 (0)
D or G2(Input)	SA0	NO REPORT	1x11 or x111 (0)
	SA1	NO REPORT	1x10 or x110 (1)
G1(Y) or G4(X1)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	0010 (0)	0010 (0)
G3(X2) or G2(Output)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	1x11 or 0111 (0)	1x11 or x111 (0)
G3(Y) or G4(X2)	SA0	NO REPORT	1x10 or x110 (1)
	SA1	1x0x or 1x11 or 010x or 0111 (0)	1x00 or x100 or 1x01 or x101 or 1x11 or x111 (0)
Z or G4(Y)	SA0	1x10 or 0110 (1)	1x10 or x110 (1)
	SA1	xx11 or xx01 or xx00 or 0010 (0)	0010 or xxx1 or xx00 (0)

To re-run the model , Refer to the Readme.txt

End of the Report