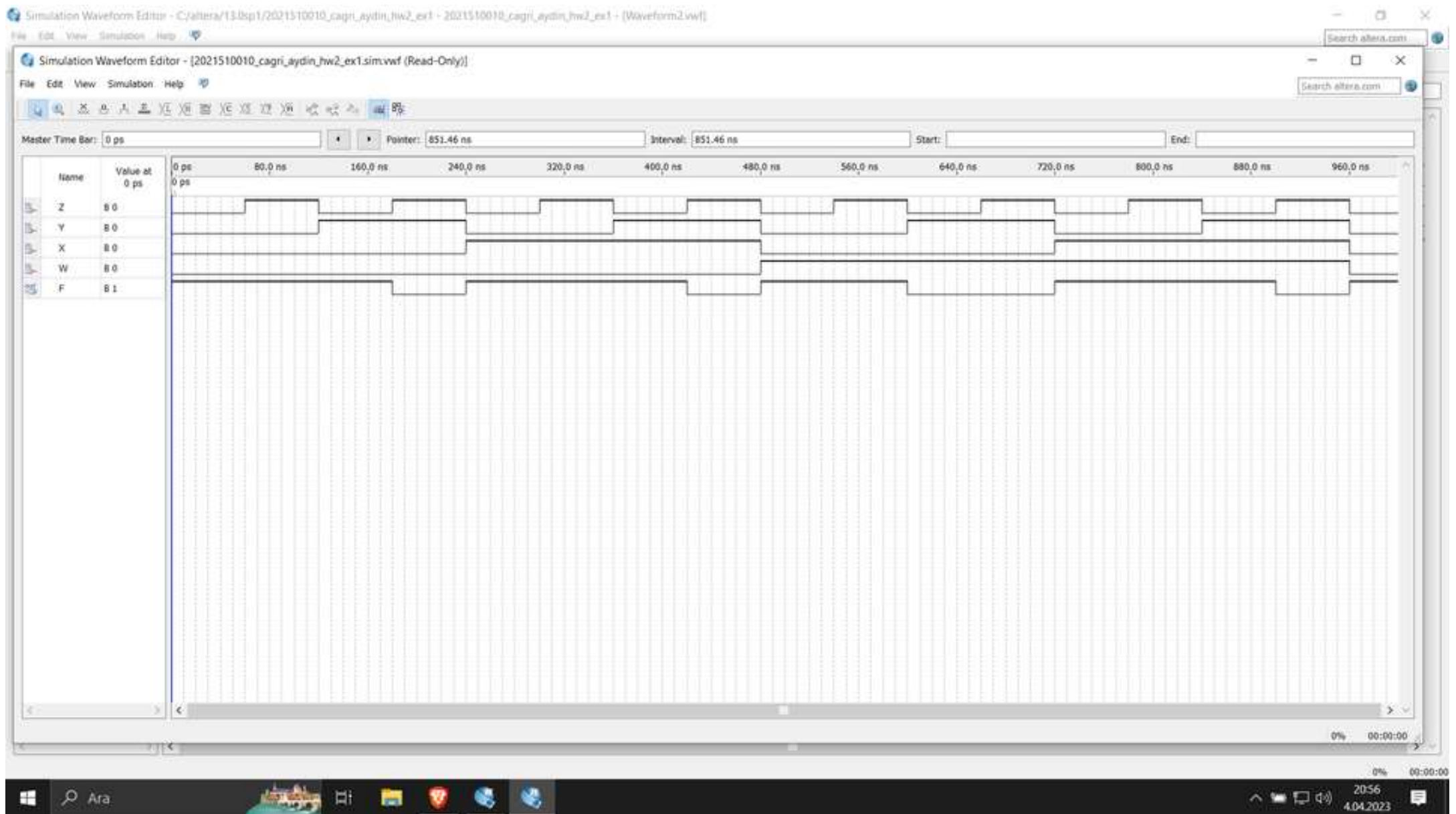
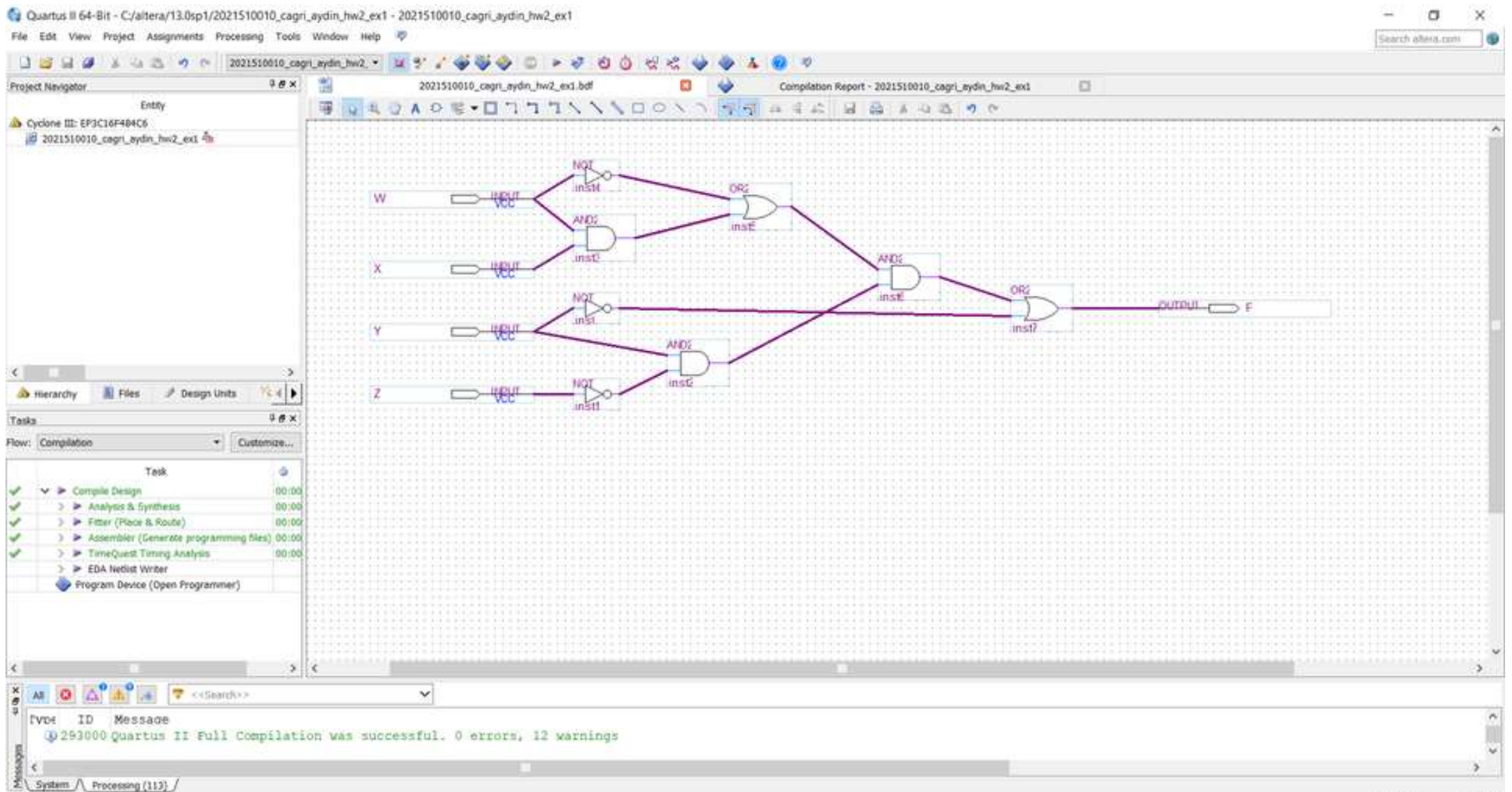


Experiment 1



W	X	Y	Z	F
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	0
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	0
1	0	0	0	1
1	0	0	1	1
1	0	1	0	0
1	0	1	1	0
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

← You are looking at

W\X\Y\Z	00	01	11	10
W'X'	1	1	0	1
W'X	1	1	0	1
WX'	1	1	0	1
WX	1	1	0	1

$= Y' + W'YZ' + WXYZ'$
 $= Y' + Z'(W' + WX)$

↑ AND ↑ Not ↑ OR

W → Green Cable
 X → Yellow Cable
 Y → Orange Cable
 Z → Red Cable

W	X	Y	Z	F
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	0
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	0
1	0	0	0	1
1	0	0	1	1
1	0	1	0	0
1	0	1	1	0
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

← You are looking at

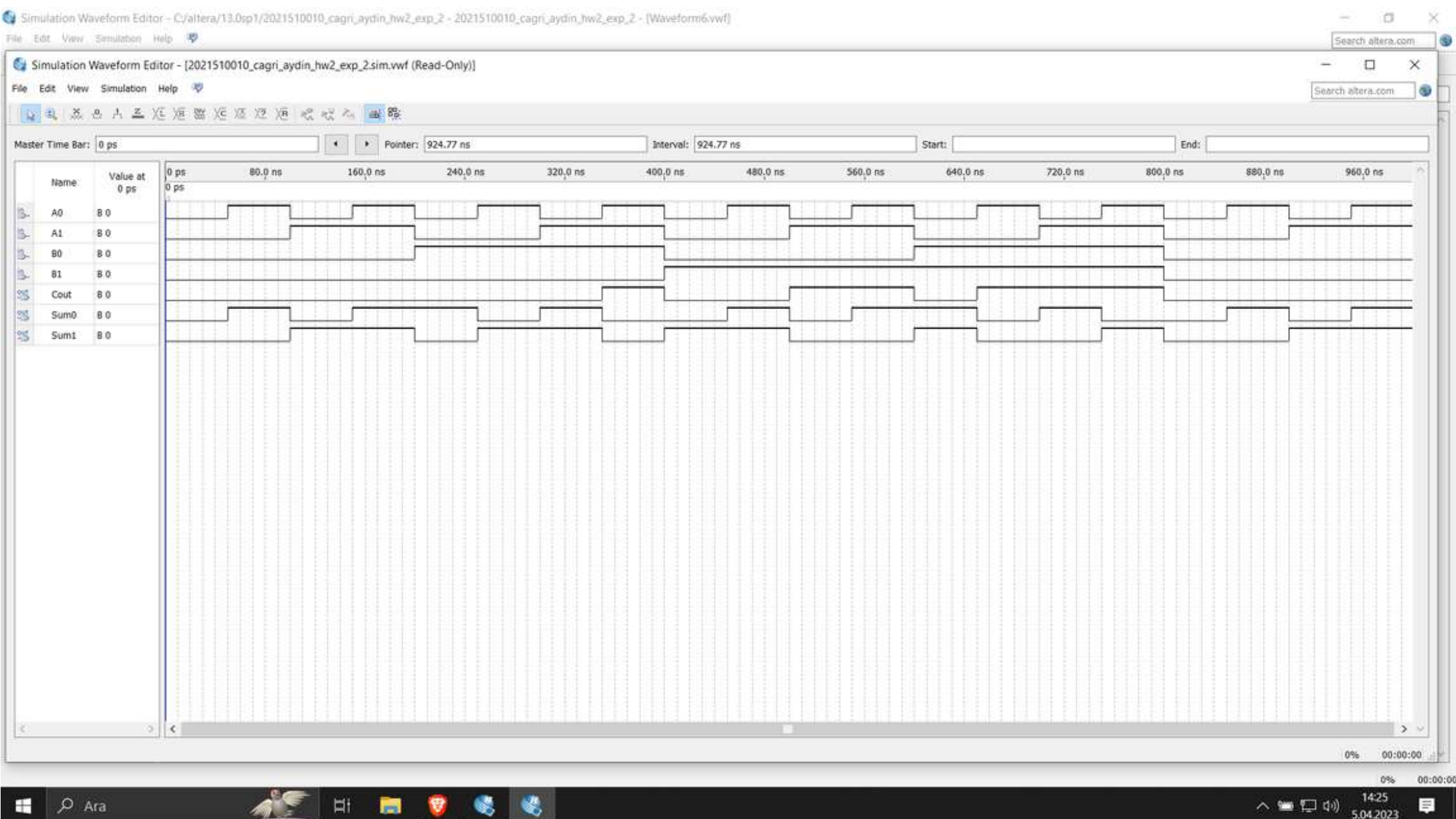
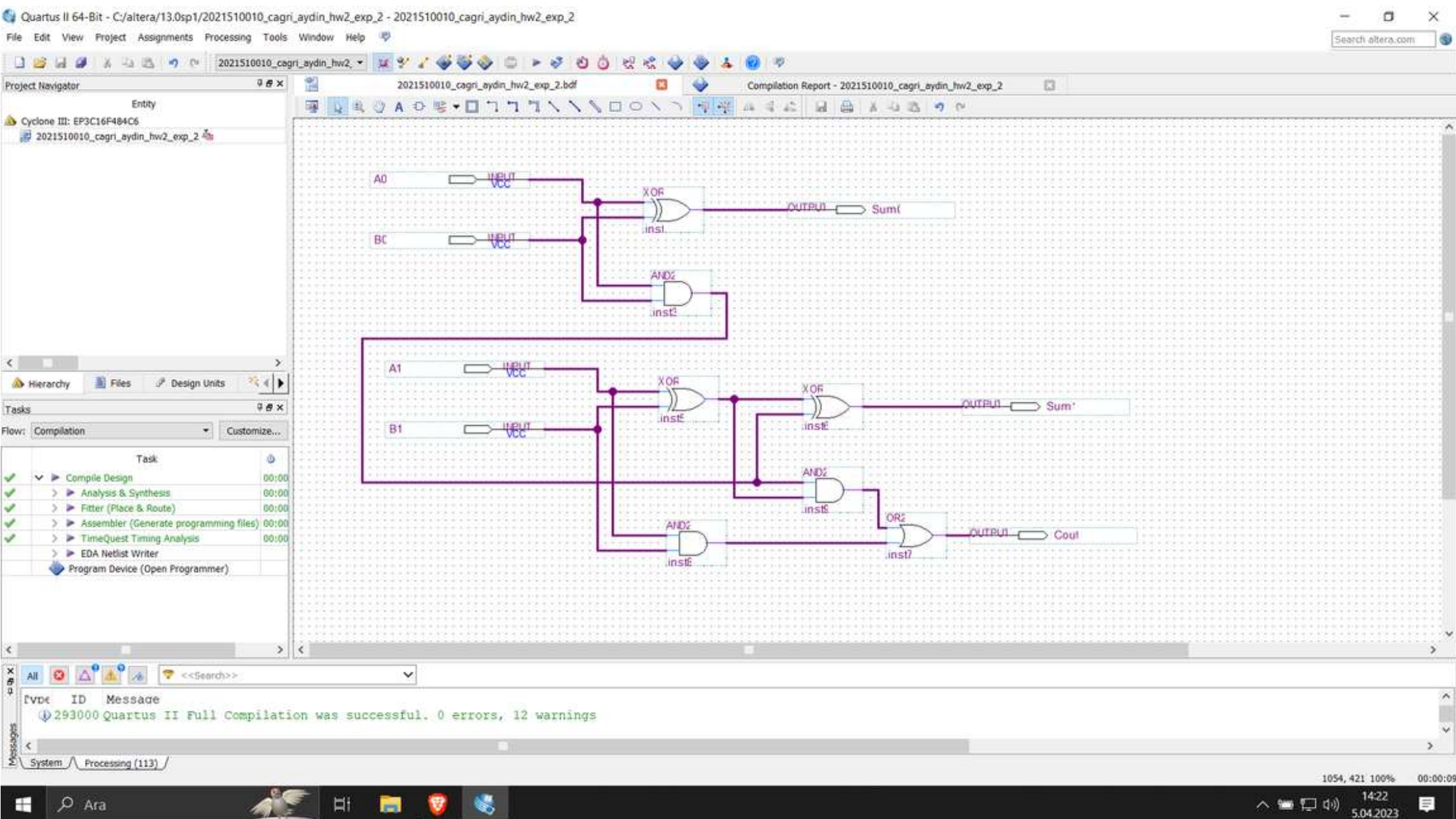
W\X\Y\Z	00	01	11	10
W'X'	1	1	0	1
W'X	1	1	0	1
WX'	1	1	0	1
WX	1	1	0	1

$= Y' + W'YZ' + WXYZ'$
 $= Y' + YZ'(W' + WX)$

↑ AND ↑ Not ↑ OR

W → Green Cable
 X → Yellow Cable
 Y → Orange Cable
 Z → Red Cable

Experiment 2



B_1	B_0	A_1	A_0	Sum_0	Sum_1	$Cout_1$	$Cout_0$
0	0	0	0	0	0	0	0
0	0	0	1	1	0	0	0
0	0	1	0	0	1	0	0
0	0	1	1	1	1	0	0
0	1	0	0	1	0	0	0
0	1	0	1	0	1	0	0
0	1	1	0	1	1	0	0
0	1	1	1	0	0	1	1
1	0	0	0	0	1	0	0
1	0	0	1	1	1	0	0
1	0	1	0	0	0	1	0
1	0	1	1	1	0	1	0
1	1	0	0	1	1	0	0
1	1	0	1	0	0	1	1
1	1	1	0	1	0	1	0
1	1	1	1	1	1	1	1

Sum0

$A_0 \backslash B_0$	0	1
0	0	1
1	1	0

$A_0 \oplus B_0$

Sum1

$A_1 \backslash B_1, Cout_0$	00	01	11	10
0	0	1	0	1
1	1	0	1	0

$A_1 \oplus (B_1 \oplus Cout_0)$

Cout1

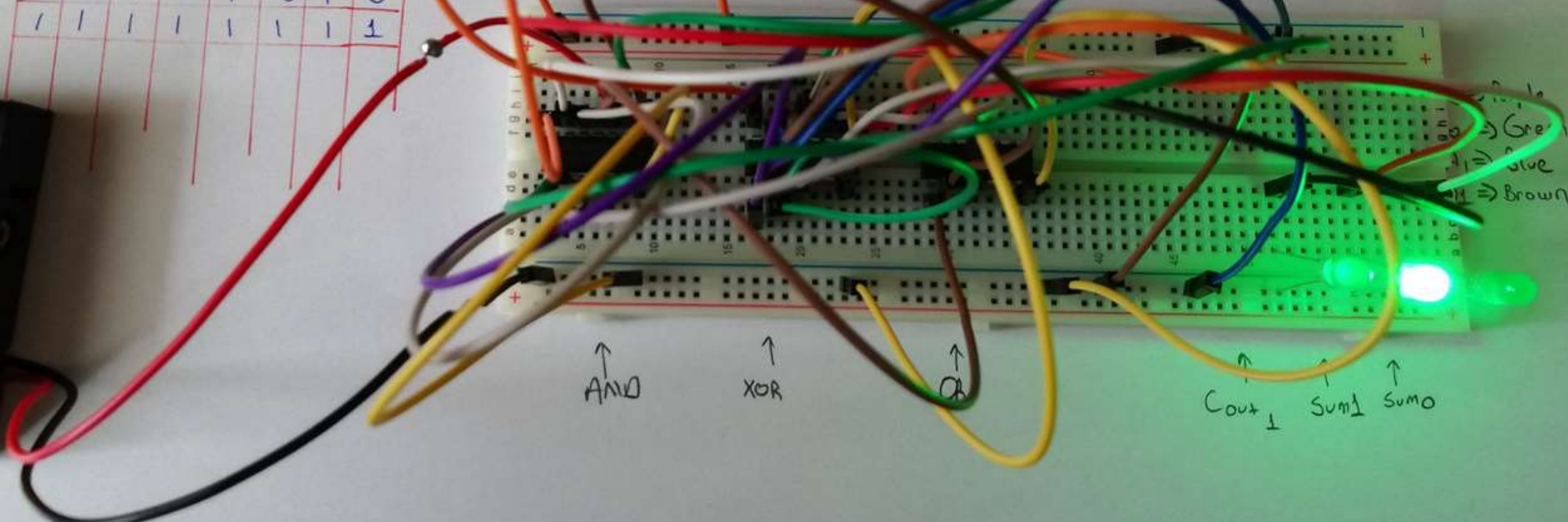
$A_1 \backslash B_1, Cout_0$	00	01	11	10
0	0	0	0	1
1	1	0	1	1

$A_1 B_1 + (A_1 \oplus B_1) Cout_0$

You are looking at

$A_0 \backslash B_0$	0	1
0	0	1
1	0	1

$A_0 \oplus B_0$



B_1	B_0	A_1	A_0	Sum_0	Sum_1	$Cout_1$	$Cout_0$
0	0	0	0	0	0	0	0
0	0	0	1	1	0	0	0
0	0	1	0	0	1	0	0
0	0	1	1	1	1	0	0
0	1	0	0	1	0	0	0
0	1	0	1	0	1	0	0
0	1	1	0	1	1	0	0
0	1	1	1	0	0	1	1
1	0	0	0	0	1	0	0
1	0	0	1	1	1	0	0
1	0	1	0	0	0	1	0
1	0	1	1	1	0	1	0
1	1	0	0	1	1	0	0
1	1	0	1	0	0	1	1
1	1	1	0	1	0	1	0
1	1	1	1	1	1	1	1

Sum0

$A_0 \backslash B_0$	0	1
0	0	1
1	1	0

$A_0 \oplus B_0$

Sum1

$A_1 \backslash B_1, Cout_0$	00	01	11	10
0	0	1	0	1
1	1	0	1	0

$A_1 \oplus (B_1 \oplus Cout_0)$

Cout1

$A_1 \backslash B_1, Cout_0$	00	01	11	10
0	0	0	0	1
1	1	0	1	1

$A_1 B_1 + (A_1 \oplus B_1) Cout_0$

You are looking at

$A_0 \backslash B_0$	0	1
0	0	1
1	0	1

$A_0 \oplus B_0$

