



TED UNIVERSITY

EE207 DIGITAL DESIGN LABORATORY

EXPERIMENT – 2 Laboratory Report Assignment

1. Please write the **four-bit adder truth table**.
2. Write the **Implementation Constraints File** for the four-bit adder.



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1) four-bit odder truth table :

C_o	$A_3 A_2 A_1 A_0$	$B_3 B_2 B_1 B_0$	$S_3 S_2 S_1 S_0$	C_u
0	0000	0000	0000	0
0	0001	0001	0010	0
0	0010	0010	0100	0
0	0011	0011	0110	0
0	0100	0100	1000	0
0	0101	0101	1010	0
0	0110	0110	1100	0
0	0111	0111	1110	0
0	1000	1000	0000	1
0	1001	1001	0010	1
0	1010	1010	0100	1
0	1011	1011	0110	1
0	1100	1100	1000	1
0	1101	1101	1010	1
0	1110	1110	1100	1
0	1111	1111	1110	1
1	1111	1111	1111	1

2) Implementation Constrains file for the four-bit odder :

INPUTS

NET "A₃" LOC = "N3";
 NET "A₂" LOC = "E2";
 NET "A₁" LOC = "F3";
 NET "A₀" LOC = "G3";
 NET "B₃" LOC = "B1";
 NET "B₂" LOC = "K3";
 NET "B₁" LOC = "L3";
 NET "B₀" LOC = "P11";

OUTPUTS

NET "S₃" LOC = "M5";
 NET "S₂" LOC = "M11";
 NET "S₁" LOC = "P7";
 NET "S₀" LOC = "P6";
 NET "C_u" LOC = "N3";

