



The student **must bring this notebook correctly filled at the beginning of the corresponding lab session**, where it must be shown to the assistant professor. The circuit cannot be built if this form is not completed or is incorrect.

## Introduction to Computers

### Notebook - Lab 1

4-bit Gray code

N	g3	g2	g1	g0
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Converter truth table

g3	g2	g1	g0	b3	b2	b1	b0
0	0	0	0				
0	0	0	1				
0	0	1	0				
0	0	1	1				
0	1	0	0				
0	1	0	1				
0	1	1	0				
0	1	1	1				
1	0	0	0				
1	0	0	1				
1	0	1	0				
1	0	1	1				
1	1	0	0				
1	1	0	1				
1	1	1	0				
1	1	1	1				

Karnaugh Maps

$g_0$ $g_1$				$g_2$ $g_3$
0	1	3	2	
4	5	7	6	
12	13	15	14	
8	9	11	10	
$b_3 =$				

$g_0$ $g_1$				$g_2$ $g_3$
0	1	3	2	
4	5	7	6	
12	13	15	14	
8	9	11	10	
$b_2 =$				

$g_0$ $g_1$				$g_2$ $g_3$
0	1	3	2	
4	5	7	6	
12	13	15	14	
8	9	11	10	
$b_1 =$				

$g_0$ $g_1$				$g_2$ $g_3$
0	1	3	2	
4	5	7	6	
12	13	15	14	
8	9	11	10	
$b_0 =$				

### Design

Define for each element and port the associated IC number and the corresponding pin