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1  library ieee ;
2  use ieee.std_logic_1164.all;
3
4  entity decodificador1X16 is
5      port (ld_dec: in std_logic;
6            i_in: in std_logic_vector(3 downto 0);
7            d_out: out std_logic_vector(15 downto 0));
8  end decodificador1X16;
9
10 architecture ckt of decodificador1X16 is
11     begin
12         d_out(0) <= (not (i_in(3))) and (not(i_in(2))) and (not (i_in(1))) and (not(i_in(0)))
13 and ld_dec;
14         d_out(1) <= (not (i_in(3))) and (not(i_in(2))) and (not (i_in(1))) and      (i_in(0))
15 and ld_dec;
16         d_out(2) <= (not (i_in(3))) and (not(i_in(2))) and      (i_in(1)) and (not(i_in(0)))
17 and ld_dec;
18         d_out(3) <= (not (i_in(3))) and (not(i_in(2))) and      (i_in(1)) and      (i_in(0))
19 and ld_dec;
20         d_out(4) <= (not (i_in(3))) and      (i_in(2)) and (not (i_in(1))) and (not(i_in(0)))
21 and ld_dec;
22         d_out(5) <= (not (i_in(3))) and      (i_in(2)) and (not (i_in(1))) and      (i_in(0))
23 and ld_dec;
24         d_out(6) <= (not (i_in(3))) and      (i_in(2)) and      (i_in(1)) and (not(i_in(0)))
25 and ld_dec;
26         d_out(7) <= (not (i_in(3))) and      (i_in(2)) and      (i_in(1)) and      (i_in(0))
27 and ld_dec;
28         d_out(8) <=      (i_in(3)) and (not(i_in(2))) and (not (i_in(1))) and (not(i_in(0)))
29 and ld_dec;
30         d_out(9) <=      (i_in(3)) and (not(i_in(2))) and (not (i_in(1))) and      (i_in(0))
31 and ld_dec;
32         d_out(10) <=      (i_in(3)) and (not(i_in(2))) and      (i_in(1)) and (not(i_in(0)))
33 and ld_dec;
34         d_out(11) <=      (i_in(3)) and (not(i_in(2))) and      (i_in(1)) and      (i_in(0))
35 and ld_dec;
36         d_out(12) <=      (i_in(3)) and      (i_in(2)) and (not (i_in(1))) and (not(i_in(0)))
37 and ld_dec;
38         d_out(13) <=      (i_in(3)) and      (i_in(2)) and (not (i_in(1))) and      (i_in(0))
39 and ld_dec;
40         d_out(14) <=      (i_in(3)) and      (i_in(2)) and      (i_in(1)) and (not(i_in(0)))
41 and ld_dec;
42         d_out(15) <=      (i_in(3)) and      (i_in(2)) and      (i_in(1)) and      (i_in(0))
43 and ld_dec;
44     end ckt;
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