

```

1  LIBRARY ieee;
2  USE ieee.std_logic_1164.all;
3
4  ENTITY add_sub_tb IS
5  END;
6
7  ARCHITECTURE add_sub_tb_arch OF add_sub_tb IS
8
9      TYPE EN_ARRAY IS ARRAY (1 TO 8) OF STD_LOGIC;
10     --
11     SIGNAL CI      : STD_LOGIC := 'U';
12     SIGNAL A       : STD_LOGIC := 'U';
13     SIGNAL CO      : STD_LOGIC := 'U';
14     SIGNAL B       : STD_LOGIC := 'U';
15     SIGNAL S       : STD_LOGIC := 'U';
16     --
17     CONSTANT DELAY : time      := 10 ns;
18     --
19     CONSTANT A_IN  : EN_ARRAY := ('0', '1', '0', '1', '0', '1', '0', '1');
20     CONSTANT B_IN  : EN_ARRAY := ('0', '0', '1', '1', '0', '0', '1', '1');
21     CONSTANT CI_IN : EN_ARRAY := ('0', '0', '0', '0', '1', '1', '1', '1');
22
23
24     COMPONENT ADD_SUB
25     PORT (
26         CI : in STD_LOGIC;
27         A  : in STD_LOGIC;
28         CO : out STD_LOGIC;
29         B  : in STD_LOGIC;
30         S  : out STD_LOGIC);
31     END COMPONENT;
32
33 BEGIN
34     TEST : PROCESS
35         variable i : integer := 1;
36     BEGIN
37         FOR i IN 1 TO 8 LOOP
38             A <= A_IN(i);
39             B <= B_IN(i);
40             CI <= CI_IN(i);
41             wait for DELAY;
42         end loop;
43         -- wait;
44     end process TEST;
45
46     DUT : ADD_SUB
47     PORT MAP (CI => CI, A => A, CO => CO, B => B, S => S) ;
48
49 END ;
50
51

```