```
library IEEE;
      use IEEE.STD_LOGIC_1164.all;

entity tb_CLA_block is
end entity tb_CLA_block;

architecture mixed of tb_CLA_block is
      component CLA_block is
            port(
                  a, b  : in std_logic_vector(3 downto 0);
                  cin   : in std_logic;
                  --
                  s     : out std_logic_vector(3 downto 0);
                  cout  : out std_logic
            );
      end component;

      signal tb_a, tb_b : std_logic_vector(3 downto 0) := (others => '0');
      signal tb_cin           : std_logic := '0';
      signal tb_s       : std_logic_vector(3 downto 0) := (others => '0');
      signal tb_cout          : std_logic := '0';

begin
      DUT : CLA_block
      port map(
            a => tb_a,
            b => tb_b,
            cin => tb_cin,
            --
            s => tb_s,
            cout => tb_cout
      );

      process begin
            tb_a <= "0100";  -- 4
            tb_b <= "0011";  -- 3
            wait for 20 ns;
            assert ( tb_s = "0111" ) report ("Feilet med: 0100 + 0011 = 0111")
severity failure;

            wait for 10 ns;
            tb_a <= "1101";  -- 13
            tb_b <= "0010";  -- 2
            wait for 20 ns;
            assert ( tb_s = "1111" ) report ("Feilet med: 1101 + 0010 = 1111")
severity failure;

            wait for 10 ns;
            tb_a <= "1001";  -- 9
            tb_b <= "0110";  -- 6
            wait for 20 ns;
            assert ( tb_s = "1111" ) report ("Feilet med: 1001 + 0110 = 1111")
severity failure;

            wait for 10 ns;
            tb_a <= "0011";  -- 3
            tb_b <= "1011";  -- 11
            wait for 20 ns;
            assert ( tb_s = "1110" ) report ("Feilet med: 0011 + 1011 = 1110")
```

```
severity failure;

            wait for 10 ns;
            tb_a <= "1100";  -- 12
            tb_b <= "1100";  -- 12
            wait for 20 ns;
            assert ( tb_s = "1000" ) report ("Feilet med: 1100 + 1100 = 1000")
severity failure;

            wait for 10 ns;
            tb_a <= "1010";  -- 10
            tb_b <= "0101";  -- 5
            wait for 20 ns;
            assert ( tb_s = "1111" ) report ("Feilet med: 1010 + 0101 = 1111")
severity failure;

            report("Testen kjørt ferdig uten feil.") severity note;
            std.env.stop;
      end process;


end architecture mixed;
```