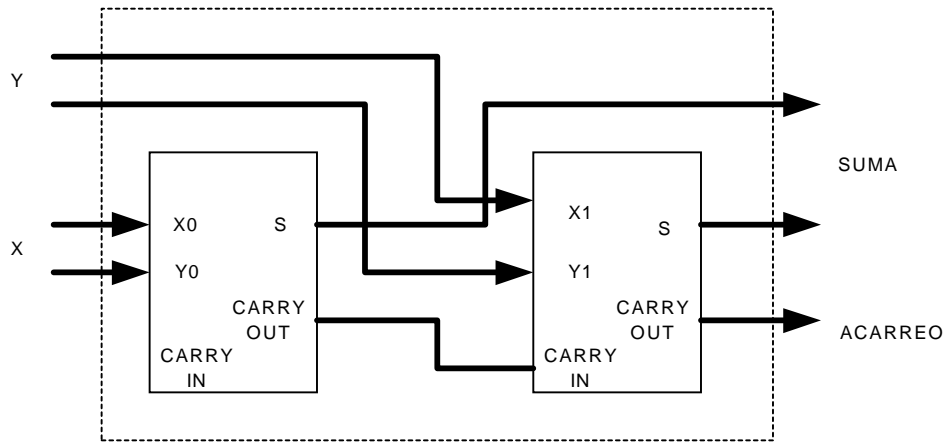


## CIRCUITO SUMADOR COMPLETO DE 2 BITS C/U



```

library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.STD_LOGIC_ARITH.ALL;
use IEEE.STD_LOGIC_UNSIGNED.ALL;

entity ckto6 is
    Port ( x1 : in std_logic;
          x0 : in std_logic;
          y0 : in std_logic;
          y1 : in std_logic;
          s0 : out std_logic;
          s1 : out std_logic;
          cout : out std_logic;
          cin : in std_logic);
end ckto6;

architecture flujo of ckto6 is

begin
    s0<= x0 xor y0 xor cin;
    s1<= x1 xor y1 xor ((x1 and y1) or (x1 and
cin) or (y1 and cin));
    cout<= (x1 and y1) or (x1 and ((x0 and y0) or
(x0 and cin) or (y0 and cin))) or (y1 and ((x0 and y0) or (x0
and cin) or (y0 and cin)));

end flujo;

PARA SIMULAR EL CIRCUITO

```

```

LIBRARY ieee;

```

```

USE ieee.std_logic_1164.ALL;

ENTITY testbench IS
END testbench;

ARCHITECTURE behavior OF testbench IS

    COMPONENT ckto6
    PORT(
        x1 : IN std_logic;
        x0 : IN std_logic;
        y0 : IN std_logic;
        y1 : IN std_logic;
        cin : IN std_logic;
        s0 : OUT std_logic;
        s1 : OUT std_logic;
        cout : OUT std_logic
    );
    END COMPONENT;

    SIGNAL x1 : std_logic;
    SIGNAL x0 : std_logic;
    SIGNAL y0 : std_logic;
    SIGNAL y1 : std_logic;
    SIGNAL s0 : std_logic;
    SIGNAL s1 : std_logic;
    SIGNAL cout : std_logic;
    SIGNAL cin : std_logic;

BEGIN

    uut: ckto6 PORT MAP(
        x1 => x1,
        x0 => x0,
        y0 => y0,
        y1 => y1,
        s0 => s0,
        s1 => s1,
        cout => cout,
        cin => cin
    );

-- *** Test Bench - User Defined Section ***
tb : PROCESS
BEGIN

```

```

        cin <= '0';x0 <= '0';x1 <= '0';y0 <=
'0';y1 <= '0';
    wait for 20 ns;
        cin <= '0';x0 <= '1';x1 <= '0';y0 <=
'0';y1 <= '0';
    wait for 20 ns;
        cin <= '0';x0 <= '1';x1 <= '1';y0 <=
'0';y1 <= '0';
    wait for 20 ns;
        cin <= '0';x0 <= '0';x1 <= '0';y0 <=
'1';y1 <= '0';
    wait for 20 ns;
        cin <= '0';x0 <= '0';x1 <= '0';y0 <=
'1';y1 <= '1';
    wait for 20 ns;
        cin <= '1';x0 <= '0';x1 <= '0';y0 <=
'1';y1 <= '0';
    wait for 20 ns;
        cin <= '1';x0 <= '1';x1 <= '0';y0 <=
'1';y1 <= '0';
    wait for 20 ns;
        cin <= '0';x0 <= '1';x1 <= '0';y0 <=
'1';y1 <= '1';
    wait for 20 ns;
        cin <= '1';x0 <= '1';x1 <= '0';y0 <=
'1';y1 <= '1';
    wait for 20 ns;
    wait; -- will wait forever
END PROCESS;
-- *** End Test Bench - User Defined Section ***

```

END;

### RESULTADO GRAFICO

