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BSCpE-3A

SYNCHRONOUS BINARY UP COUNTER

```
1  library IEEE;
2  use IEEE.STD_LOGIC_1164.ALL;
3  use IEEE.STD_LOGIC_ARITH.ALL;
4  use IEEE.STD_LOGIC_UNSIGNED.ALL;
5  entity synbicount is
6  Port (rs,clk: in STD_LOGIC;
7  q: inout STD_LOGIC_VECTOR (3 downto 0));
8  end synbicount;
9  architecture Behavioral of synbicount is
10 signal div:std_logic_vector(22 downto 0);
11 signal temp:STD_LOGIC_VECTOR (3 downto 0);
12 signal clkd:std_logic;
13 begin
14 process(clk)
15 begin
16 if rising_edge(clk)then
17 div<= div+1;
18 end if;
19 end process;
20 clkd<=div(22);
21 process(clkd)
22 begin
23 if(clkd='1' and clkd'event) then
24 if(rs='1') then temp<=(others=>'0');
25 else temp<=temp+1;
26 end if;
27 q<= temp;
28 end if;
29 end process;
30 end Behavioral;
```