```
library ieee;
use ieee.std_logic_1164.all;

entity jakaja is
  port (CLK: in std_logic; Q: out std_logic);
end jakaja;

architecture operation of jakaja is
function increment_counter (input: std_logic_vector) return std_logic_vector is
  variable result: std_logic_vector (23 downto 0):=input;
  variable carry: std_logic:='1';
  begin
    for index in 0 to 23 loop
       result(index):= result(index) xor carry;  --bitwise incrementing
       carry:=input(index) and carry;
       exit when carry='0';
    end loop;
  return result;
end increment_counter;

begin
  process (CLK)
    variable count: std_logic_vector (23 downto 0) ;
  begin
    if CLK='1' and CLK'event then
                    count:=increment_counter(count);
    end if;
    Q<=count(23);
  end process;
end operation;
```