```vhdl
--------------------------------------------------------------------------------
--
--   Purpose:
--
--      Barrel Shifter
--
--   Discussion:
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--
--   Licensing:
--
--      This code is distributed under the GNU LGPL license.
--
--   Modified:
--
--      2012.03.29
--
--   Author:
--
--      Young W. Lim
--
--   Parameters:
--
--      Input:
--
--      Output:
--------------------------------------------------------------------------------

library STD;
use STD.textio.all;

library IEEE;
use IEEE.std_logic_1164.all;
use IEEE.numeric_std.all;


entity bshift is
  generic (
     WD     : in natural := 32;
     SH     : in natural := 5 );

  port (
     din    : in  std_logic_vector (WD-1 downto 0) := (others=>'0');
     nbit   : in  std_logic_vector (SH-1 downto 0) := (others=>'0');
     dout   : out std_logic_vector (WD-1 downto 0) := (others=>'0'));

end bshift;

architecture rtl of bshift is

begin

  bshft: process (din, nbit)
    variable s      : std_logic := '0';
    variable dinX   : std_logic_vector (2*WD-1 downto 0) := (others=>'0');
    variable offset : natural := 0;
    variable result : std_logic_vector (WD-1 downto 0) := (others=>'0');
  begin  -- process bshft

    s := din(WD-1);
    for i in 2*WD-1 downto WD loop
      dinX(i) := s;
    end loop;  -- i
    dinX := dinX(2*WD-1 downto WD) & din (WD-1 downto 0);

    offset := to_integer(unsigned(nbit));

    result := dinX(WD-1+offset  downto offset);

    dout <= result;
```

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    end process;

end rtl;
```