

```

-----MODULE_PCalBoundedBuffer-----
EXTENDS_Integers
_
CONSTANT_Msg, _N
ASSUME_N_in_Nat_{0}
_
a_(+)_b_==_(a_+_b)_%_2*_N
a_(-)_b_==_(a_-_b)_%_2*_N
_
(*****
--algorithm_BBuf_{
  variables_buf_in_[0..(N-1)]->_Msg], _p_=_0, _c_=_0;
  process_(Producer=_ "P")
    {_p1:_while_(TRUE)
      {await_p_(-)_c_#_N_;
        with_(v_in_Msg)_{_buf_[p_%_N]_:=_v_};
        p:=_p_(+)_1
      }
    }
  process_(Consumer=_ "C")
    {_c1:_while_(TRUE)
      {await_p_#_c_;
        c:=_c_(+)_1
      }
    }
}

_*****
=====

```