

```

-----MODULE NProcBoundedBuffer-----
EXTENDS Integers, Sequences, ISequences

N
CONSTANT N, Msg, Input
ASSUME /\ N \in Nat \ {0}
        /\ Input \in ISeq(Msg)

N
a(+)b == (a+b)%2*N
a(-)b == (a-b)%2*N

N
(*****
--algorithm NProcBBuf{
    variables in = Input, out = <<>,
    buf \in [0..(N-1) -> Msg], p = 0, c = 0;
    fair process (Buffer \in 0..(N-1))
    {
        b1: while (TRUE)
        {
            await p % N = self;
            buf[self % N] = IHead(in);
            in = ITail(in);
            p = p(+)1;
        }
        b2: await c % N = self;
        out = Append(out, buf[self % N]);
        c = c(+)1;
    }
}

*****)
=====

```