

EXTENDS *Integers, Sequences*

$ISeq(S) \triangleq [(Nat \setminus \{0\}) \rightarrow S]$

$ITail(iseq) \triangleq [i \in (Nat \setminus \{0\}) \mapsto iseq[i + 1]]$

$IHead(iseq) \triangleq iseq[1]$

CONSTANT $N, Msg, Input$

ASSUME $\wedge N \in Nat \setminus \{0\}$
 $\wedge Input \in ISeq(Msg)$

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```
--algorithm BChan{
  variables in = Input, out = ⟨⟩, ch = ⟨⟩;
  process ( Send = 0 ) {
    s: while ( TRUE ) {
      await Len(ch) ≠ N;
      ch := Append(ch, IHead(in));
      in := ITail(in) } }
  process ( Rcv = 1 ) {
    r: while ( TRUE ) {
      await Len(ch) ≠ 0;
      out := Append(out, Head(ch));
      ch := Tail(ch) } } }
```

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