MODULE *Alternation*

EXTENDS *Sequences*

$Put(s) \triangleq Append(s, \text{“widget”})$
$Get(s) \triangleq Tail(s)$

```
**************************************************************************
--algorithm Alternate{
    variable b = 0, box = ⟨⟩ ;
    fair process ( Producer = 0 )
      { p1: while ( TRUE )
              { await b = 0 ;
                box := Put(box) ;
                b := 1
              }
      }
    process ( Consumer = 1 )
      { c1: while ( TRUE )
              { await b = 1 ;
                box := Get(box) ;
                b := 0
              }
      }
}
**************************************************************************
BEGIN TRANSLATION
```

VARIABLES b, box

$vars \triangleq \langle b, box \rangle$

$ProcSet \triangleq \{0\} \cup \{1\}$

$Init \triangleq$ Global variables
$\land\ b = 0$
$\land\ box = \langle\rangle$

$Producer \triangleq \land\ b = 0$
$\land\ box' = Put(box)$
$\land\ b' = 1$

$Consumer \triangleq \land\ b = 1$
$\land\ box' = Get(box)$
$\land\ b' = 0$

$Next \triangleq Producer \lor Consumer$

$$Spec \triangleq \land Init \land \Box[Next]_{vars} \\ \land \mathrm{WF}_{vars}(Producer)$$

END TRANSLATION

* Modification History
* Last modified *Thu Jun* 05 09:38:27 *CST* 2014 by *yaojingguo*
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