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|----- MODULE AsynchInterface -----|
EXTENDS Naturals
CONSTANT Data
VARIABLE val, rdy, ack
TypeInvariant  $\triangleq$   $\wedge val \in Data$ 
                   $\wedge rdy \in \{0, 1\}$ 
                   $\wedge ack \in \{0, 1\}$ 

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Init  $\triangleq$   $\wedge val \in Data$ 
           $\wedge rdy \in \{0, 1\}$ 
           $\wedge ack = rdy$ 

Send  $\triangleq$   $\wedge rdy = ack$ 
           $\wedge val' \in Data$ 
           $\wedge rdy' = 1 - rdy$ 
           $\wedge \text{UNCHANGED } ack$ 

Receive  $\triangleq$   $\wedge rdy \neq ack$ 
             $\wedge ack' = 1 - ack$ 
             $\wedge \text{UNCHANGED } \langle val, rdy \rangle$ 

Next  $\triangleq Send \vee Receive$ 

Spec  $\triangleq Init \wedge \Box[Next]_{\langle val, rdy, ack \rangle}$ 

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THEOREM Spec  $\Rightarrow \Box TypeInvariant$ 

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\ * Modification History
\ * Last modified Mon Feb 12 14:41:04 CET 2018 by jacob
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