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MODULE *LIFO\_Interface*

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EXTENDS *Naturals, Sequences*  
 CONSTANT *QueueSize, Message*  
 VARIABLES *q, in, out*

*InChan*  $\triangleq$  INSTANCE *Channel* WITH *Data*  $\leftarrow$  *Message*, *chan*  $\leftarrow$  *in*  
*OutChan*  $\triangleq$  INSTANCE *Channel* WITH *Data*  $\leftarrow$  *Message*, *chan*  $\leftarrow$  *out*

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Generalized sender/reciever interface - The *Send* and *Rcv* methods and a queue is specified, while specifics about how its done is omitted

*Init*  $\triangleq$   $\wedge$  *InChan!Init*  
 $\wedge$  *OutChan!Init*  
 $\wedge q = \langle \rangle$

*TypeInvariant*  $\triangleq$   $\wedge$  *InChan!TypeInvariant*  
 $\wedge$  *OutChan!TypeInvariant*  
 $\wedge q \in Seq(Message)$   
 $\wedge QueueSize > 0$   
 $\wedge QueueSize \in Nat$   
 $\wedge Len(q) \leq QueueSize$

*Send(msg)*  $\triangleq$   $\wedge$  *InChan!Send(msg)* Send *msg* on channel *in* .  
 $\wedge$  UNCHANGED  $\langle out, q \rangle$   
 $\wedge Len(q) < QueueSize$

*Rcv*  $\triangleq$   $\wedge$  *OutChan!Rcv* Receive message from channel *out* .  
 $\wedge$  UNCHANGED  $\langle in, q \rangle$

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