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1  |----- MODULE JupiterInterface -----|
   | This module declares the parameters and defines the operators that describe the interface of a |
   | family of Jupiter specs. |
6  | EXTENDS Integers, SequenceUtils, OT |
7  |-----|
8  | CONSTANTS
9      Client,      the set of client replicas
10     Server,      the (unique) server replica
11     Char,        set of characters allowed
12     InitState    the initial state of each replica

14  Replica  $\triangleq$  Client  $\cup$  {Server}

16  List  $\triangleq$  Seq(Char  $\cup$  Range(InitState))      all possible lists/strings
17  MaxLen  $\triangleq$  Cardinality(Char) + Len(InitState)  the max length of lists in any states;
18      We assume that all inserted elements are unique.

20  ClientNum  $\triangleq$  Cardinality(Client)
21  Priority  $\triangleq$  CHOOSE  $f \in [Client \rightarrow 1 \dots ClientNum] : Injective(f)$ 
22  |-----|
23  | ASSUME
24       $\wedge Range(InitState) \cap Char = \{\}$   due to the uniqueness requirement
25       $\wedge Priority \in [Client \rightarrow 1 \dots ClientNum]$ 
26  |-----|
   | The set of all operations. Note: The positions are indexed from 1. |
31  Rd  $\triangleq$  [type : { "Rd" }]
32  Del  $\triangleq$  [type : { "Del" }, pos : 1 .. MaxLen]
33  Ins  $\triangleq$  [type : { "Ins" }, pos : 1 .. (MaxLen + 1), ch : Char, pr : 1 .. ClientNum]  pr: priority
35  Op  $\triangleq$  Ins  $\cup$  Del  Now we don't consider Rd operations
36  |-----|
   | * Modification History
   | * Last modified Tue Dec 04 19:33:47 CST 2018 by hengxin
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