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1 |----- MODULE SystemModel -----|
  | Constants and related definitions describing the system model of Jupiter protocols.
5 | EXTENDS Naturals, SequenceUtils
6 |-----|
7 | CONSTANTS
8 |   Client,      the set of client replicas
9 |   Server,      the (unique) server replica
10 |  Msg,          the set of messages
11 |  Char,         the set of characters
12 |  InitState    the initial state of each replica

14 | ASSUME We assume that all inserted elements are unique.
15 |    $\wedge$     $\text{Range}(\text{InitState}) \cap \text{Char} = \{\}$  due to the uniqueness requirement
16 |-----|
17 |  $\text{Replica} \triangleq \text{Client} \cup \{\text{Server}\}$ 

19 |  $\text{List} \triangleq \text{Seq}(\text{Char} \cup \text{Range}(\text{InitState}))$  all possible lists
20 |  $\text{MaxLen} \triangleq \text{Cardinality}(\text{Char}) + \text{Len}(\text{InitState})$  the max length of lists in any state

22 |  $\text{ClientNum} \triangleq \text{Cardinality}(\text{Client})$ 
23 |  $\text{Priority} \triangleq \text{CHOOSE } f \in [\text{Client} \rightarrow 1 \dots \text{ClientNum}] : \text{Injective}(f)$ 
24 |-----|

  \ * Modification History
  \ * Last modified Sun Jan 13 09:55:59 CST 2019 by hengxin
  \ * Created Sun Jan 13 09:51:52 CST 2019 by hengxin

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