―――――――――――――――――――― MODULE Op ――――――――――――――――――――

Definition and operator for list operations.

5 EXTENDS $SystemModel$

6 ├――

7 $Priority \triangleq$ CHOOSE $f \in [Client \rightarrow 1 \mathrel{..} Cardinality(Client)] : Injective(f)$

9 $MaxLen \triangleq Cardinality(Char) + Len(InitState)$ the max length of lists in any state

11 $Rd \triangleq [type : \{\text{``Rd''}\}]$
12 $Del \triangleq [type : \{\text{``Del''}\}, pos : 1 \mathrel{..} MaxLen]$ The positions (*pos*) are indexed from 1.
13 $Ins \triangleq [type : \{\text{``Ins''}\}, pos : 1 \mathrel{..} (MaxLen + 1), ch : Char, pr : Range(Priority)]$

15 $Op \triangleq Ins \cup Del$ The set of all operations (now we don't consider Rd operations).
16 $Nop \triangleq PickNone(Op)$

17 ├――

18 $Apply(op, l) \triangleq$ Apply operation op on list l.
19   CASE $op = Nop \rightarrow l$
20   □ $op.type = \text{``Rd''} \rightarrow l$
21   □ $op.type = \text{``Del''} \rightarrow DeleteElement(l, op.pos)$
22   □ $op.type = \text{``Ins''} \rightarrow InsertElement(l, op.ch, op.pos)$ append to the end
23   if $op.pos = Len(l) + 1$

24 └――

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