1 ──────────── MODULE *EagerVotingL* ────────────

ERROR: The THEOREM in this module does NOT hold: *ShowsSafeAt*(Q, b, v) may hold in *EagerVoting* but not in *Voting* with *lazyMaxBal* ← *maxBal*.

7 EXTENDS *EagerVoting*

8 ├──

9 VARIABLE *lazyMaxBal*

11 *TypeOKL* $\triangleq$
12     $\wedge$ *TypeOK*
13     $\wedge$ *lazyMaxBal* $\in$ [*Acceptor* $\rightarrow$ *Ballot* $\cup$ {-1}]

14 ├──

15 *InitL* $\triangleq$
16     $\wedge$ *Init*
17     $\wedge$ *lazyMaxBal* = [$a \in$ *Acceptor* $\mapsto -1$]

19 *IncreaseMaxBalL*(a, b) $\triangleq$
20     $\wedge$ *IncreaseMaxBal*(a, b)
21     $\wedge$ *lazyMaxBal*$'$ = [*lazyMaxBal* EXCEPT ![a] = b]

23 *VoteForL*(a, b, v) $\triangleq$
24     $\wedge$ *VoteFor*(a, b, v)
25     $\wedge$ *lazyMaxBal*$'$ = [*lazyMaxBal* EXCEPT ![a] = b]

26 ├──

27 *NextL* $\triangleq$
28     $\exists a \in$ *Acceptor*, b $\in$ *Ballot* :
29         $\vee$ *IncreaseMaxBalL*(a, b)
30         $\vee \exists v \in$ *Value* : *VoteForL*(a, b, v)

32 *SpecL* $\triangleq$ *InitL* $\wedge \Box$[*NextL*]$_{\langle votes,\, maxBal,\, lazyMaxBal \rangle}$

33 ├──

34 *V* $\triangleq$ INSTANCE *Voting* WITH *maxBal* $\leftarrow$ *lazyMaxBal*

36 THEOREM *SpecL* $\Rightarrow$ *V*!*Spec*

37 └──