$\overline{}$ MODULE $DieHard$ $\overline{}$

EXTENDS $Integers$

VARIABLES $small,\ big$

$TypeOK \triangleq\ \land small \in 0 \mathinner{.\,.} 3$
$\qquad\qquad \land big\ \ \in 0 \mathinner{.\,.} 5$

$Init \triangleq\ \land big\ \ \ = 0$
$\qquad\quad \land small = 0$

$FillSmall \triangleq$
$\quad \land small \neq 3$
$\quad \land small' = 3$
$\quad \land big' = big$

$FillBig \triangleq$
$\quad \land big \neq 5$
$\quad \land big' = 5$
$\quad \land small' = small$

$EmptySmall \triangleq$
$\quad \land small \neq 0$
$\quad \land small' = 0$
$\quad \land big' = big$

$EmptyBig \triangleq$
$\quad \land big \neq 0$
$\quad \land big' = 0$
$\quad \land small' = small$

$SmallToBig \triangleq$
$\quad \land small \neq 0$
$\quad \land big \neq 5$
$\quad \land \text{IF } big + small\ \ \leq 5$
$\qquad \text{THEN } \land big'\ \ \ = big + small$
$\qquad\qquad\quad\ \land small' = 0$
$\qquad \text{ELSE } \land big'\ \ \ = 5$
$\qquad\qquad\quad\ \land small' = small - (5 - big)$

$BigToSmall \triangleq$
$\quad \land big \neq 0$
$\quad \land small \neq 3$
$\quad \land \text{IF } big + small\ \ \leq 3$
$\qquad \text{THEN } \land big'\ \ \ = 0$
$\qquad\qquad\quad\ \land small' = big + small$
$\qquad \text{ELSE } \land big'\ \ \ = small - (3 - big)$
$\qquad\qquad\quad\ \land small' = 3$

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50   Next ≜
51        ∨ FillSmall
52        ∨ FillBig
53        ∨ EmptySmall
54        ∨ EmptyBig
55        ∨ SmallToBig
56        ∨ BigToSmall

58   └
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\ * Modification History
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