

MODULE <i>an0</i>
EXTENDS <i>Integers</i> , <i>TLC</i>
CONSTANTS <i>v0</i> , <i>pc0</i> VARIABLES <i>v</i> , <i>pc</i>
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">extra definitions</div> $min \triangleq -2^{\{31\}}$ $max \triangleq 2^{\{31\}} - 1$ $D \triangleq min .. max$
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">precondition $pre(x0, y0, z0, pc0)$</div> $pre(fv) \triangleq fv = 3$ ASSUME $pre(v0)$
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">initial conditions</div> $Init \triangleq pc = \text{"l0"} \wedge v = 3$
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">actions</div> $skip \triangleq \text{UNCHANGED } \langle pc, v \rangle$ $al0l1 \triangleq$ $\quad \wedge pc = \text{"l0"}$ $\quad \wedge \text{TRUE}$ $\quad \wedge pc' = \text{"l1"}$ $\quad \wedge v' = v + 2$
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">next relation</div> $Next \triangleq skip \vee al0l1$
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">invariant properties</div> $i \triangleq$ $\quad \wedge pc \in \{\text{"l0"}, \text{"l1"}\}$ $\quad \wedge pc = \text{"l0"} \Rightarrow v = 3$ $\quad \wedge pc = \text{"l1"} \Rightarrow v = 5$
<div style="background-color: #f0f0f0; padding: 2px; margin-bottom: 5px;">safety properties</div> $suretecorrectionpartielle \triangleq pc = \text{"l1"} \Rightarrow v = 5$ $sureteabsencederreurs \triangleq v \in D \wedge v + 2 \in D$
$tocheck \triangleq i$