

# A Deontic Logic of Knowingly Complying

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- $U(i)$  is an indistinguishability relation between plans for agent  $i$ .

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Note:  $A\varphi = N(\neg\varphi, \perp)$  and  $E\varphi = \neg A\neg\varphi$ .

# An example: Fire Emergency Evacuation Plan

## EMERGENCY PROCEDURE

- FIRE
- SMOKE
- EXPLOSION

KEEP CALM  
PULL FIRE ALARM,  
FROM A SAFE LOCATION  
CALL 999 (FIRE BRIGADE)

**Evacuate:** close doors behind, use only stairs or ramps.

**If unsafe to evacuate:** shut door, block cracks, stay low near window.



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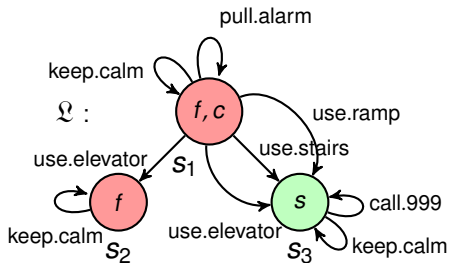
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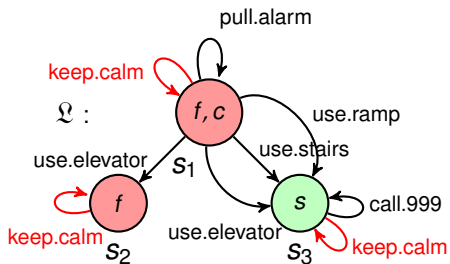
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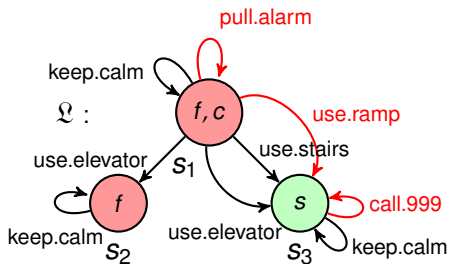


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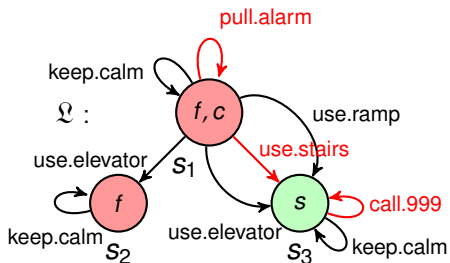
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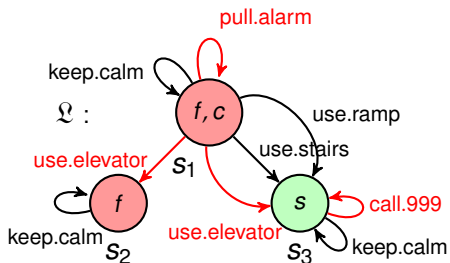
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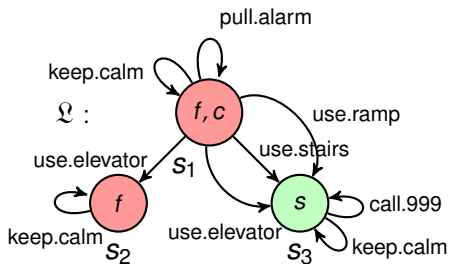
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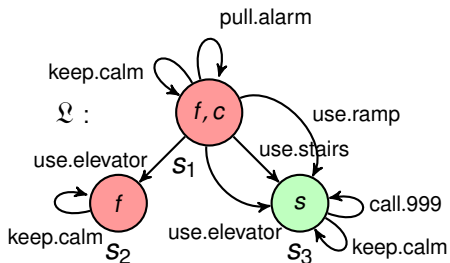
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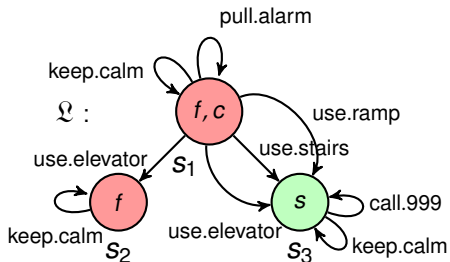
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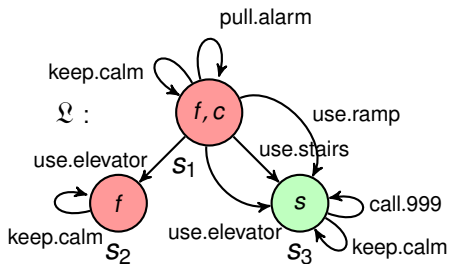
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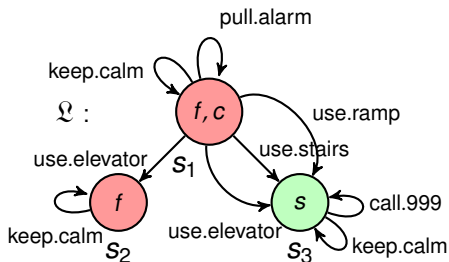
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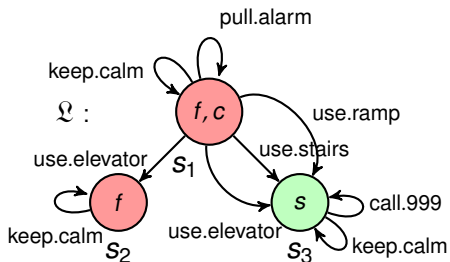
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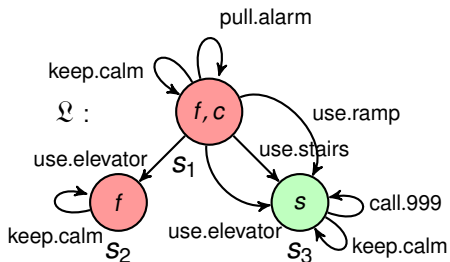
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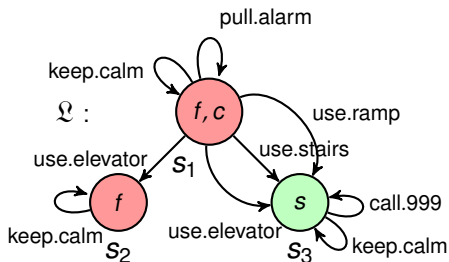
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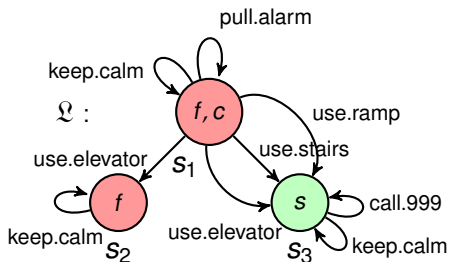
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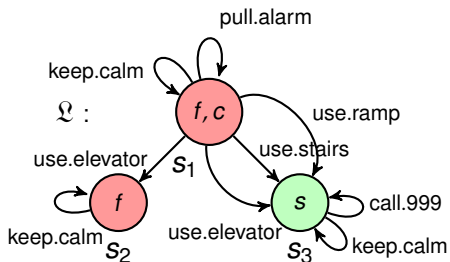
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# Axiom system for DLKc

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Axioms:

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DistA  $\vdash A(\psi \rightarrow \varphi) \rightarrow (A\psi \rightarrow A\varphi)$

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4KcA  $\vdash Kc_i(\psi, \varphi) \rightarrow AKc_i(\psi, \varphi)$

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