

MACHINE m0

Initial machine

SEES cd

VARIABLES

n number of cars

INVARIANTS

inv1: $n \in \mathbb{N}$

number of cars

inv2: $n \leq d$

thm1: $n > 0 \vee n < d$

EVENTS

Initialisation

begin

act1: $n := 0$

end

Event $ML_{out} \hat{=}$

Leaving the mainland

when

grd1: $n < d$

then

act1: $n := n + 1$

One more car in the island-bridge

end

Event $ML_{in} \hat{=}$

Entering the mainland

when

grd1: $n > 0$

Possible only when some car is in the island/bridge

then

act1: $n := n - 1$

One car less in the island-bridge

end

END