

<p align="center">An Event-B Specification of ID_C0 Creation Date: 14Oct2015 @ 05:39:10 PM</p>

CONTEXT ID_C0

CONSTANTS

b

c

AXIOMS

axm1 : $b \in \mathbb{N}$

axm2 : $c \in \mathbb{N}$

axm3 : $c > 0$

END

<p align="center">An Event-B Specification of ID_M0 Creation Date: 14Oct2015 @ 05:39:10 PM</p>

MACHINE ID_M0

SEES ID_C0

VARIABLES

a

k

INVARIANTS

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

inv2 : $k \in \mathbb{N}$

inv3 : $b = a * c + k$

inv4 : $k < c \wedge b = a * c + k \Rightarrow k < c \wedge b = a * c + k$

For sequential correctness: guard + invariant -> postcondition

EVENTS

Initialisation

begin

act1 : $a, k := 0, b$

end

Event *Progress* $\hat{=}$

Status convergent

when

grd1 : $k \geq c$

then

act1 : $a, k := a + 1, k - c$

end

Event *Finish* $\hat{=}$

when

grd1 : $k < c$

then

act1 : $a := a$

end

VARIANT

k Prove termination – we need $c > 0$ (just $c : \mathbb{N}$ won't work)

END