
SEMAPHORE SHARED RESOURCE

CADT Semaphore

OPERATIONS

ACTION Init: $\mathbb{N}[i]$

ACTION V: *Void*

ACTION P: *Void*

SEMANTICS

DOMAIN:

STATE: *Semaphore* = \mathbb{N}

INVARIANT: $self == 0 \vee self == 1$

INITIAL: 0

PRE: $v == 0 \vee v == 1$

CPRE: true

Init(v)

POST: $self^{out} = v$

PRE: true

CPRE: $self == 0$

V()

POST: $self^{out} = self^{in} + 1$

PRE: true

CPRE: $self == 1$

P()

POST: $self^{out} = self^{in} - 1$