

CreditCard

$\vdash (\text{limit}, \text{balance}, \text{INIT}, \text{withdraw}, \text{deposit}, \text{withdrawAvail})$

$\text{limit} : \mathbb{N}$

$\text{limit} \in \{1000, 2000, 5000\}$

$\text{balance} : \mathbb{Z}$

$\text{balance} + \text{limit} \geq 0$

INIT

$\text{balance} = 0$

Withdraw

$\Delta(\text{balance})$

$\text{amount?} : \mathbb{N}$

$\text{amount?} \leq \text{balance} + \text{limit}$

$\text{balance}' = \text{balance} - \text{amount?}$

Deposit

$\Delta(\text{balance})$

$\text{amount?} : \mathbb{N}$

$\text{balance}' = \text{balance} + \text{amount?}$

WithdrawAvail

$\Delta(\text{balance})$

$\text{amount!} : \mathbb{N}$

$\text{amount!} = \text{balance} + \text{limit}$

$\text{balance}' = -\text{limit}$