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    end
Event add ⟨ordinary⟩ $\mathrel{\widehat{=}}$
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        c
    where
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    then
        act_1: $coins := coins \cup \{c\}$
    end
Event collectOddCoins ⟨ordinary⟩ $\mathrel{\widehat{=}}$
    when
        grd_1: $coins \neq \varnothing$
    then
        act_1: $oddcoins := \{x \cdot x \in coins \wedge (x mod 2) = 1 | x\}$
    end
END

MACHINE Collect1
REFINES Collect
VARIABLES

      coins

      oddcoins

      collecting

      tobechecked

      checked

      collected

INVARIANTS

      inv1_1: $collecting \in BOOL$

      inv1_2: $tobechecked \subseteq \mathbb{N}$

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      inv1_13: $\forall x \cdot x \in checked \wedge x mod 2 = 1 \Rightarrow x \in collected$

VARIANT

      tobechecked

EVENTS

Initialisation ⟨extended⟩

    begin

        init_1: $coins := \varnothing$

        init_2: $oddcoins := \varnothing$

        init1_1: $collecting := FALSE$

        init1_2: $tobechecked := \varnothing$

        init1_3: $collected := \varnothing$

        init1_4: $checked := \varnothing$

    end

Event add ⟨ordinary⟩ $\widehat{=}$

extends add

    any

        c

    where

        grd_1: $c \in \mathbb{N}$

        grd1_1: $collecting = FALSE$

    then

        act_1: $coins := coins \cup \{c\}$

    end

Event startCollecting ⟨ordinary⟩ $\widehat{=}$

    when

        grd1_1: $collecting = FALSE$

        grd1_2: $coins \neq \varnothing$

    then

        act1_1: $collecting := TRUE$

        act1_2: $tobechecked := coins$

        act1_3: $checked := \varnothing$

        act1_4: $collected := \varnothing$

    end

Event ignoreSingleEvenCoin ⟨convergent⟩ ≙

    any

        c

    where

        grd1_1: $collecting = TRUE$

        grd1_2: $tobechecked \neq \varnothing$

        grd1_3: $c \in tobechecked$

        grd1_4: $(c mod 2) = 0$

    then

        act1_1: $tobechecked := tobechecked \setminus \{c\}$

        act1_2: $checked := checked \cup \{c\}$

    end

Event collectSingleOddCoin ⟨convergent⟩ ≙

    any

        c

    where

        grd1_1: $collecting = TRUE$

        grd1_2: $tobechecked \neq \varnothing$

        grd1_3: $c \in tobechecked$

        grd1_4: $(c mod 2) = 1$

        gtd1_5: $c \in coins$

    then

        act1_1: $tobechecked := tobechecked \setminus \{c\}$

        act1_2: $checked := checked \cup \{c\}$

        act1_3: $collected := collected \cup \{c\}$

    end

Event collectOddCoins ⟨ordinary⟩ ≙

refines collectOddCoins

    when

        grd1_1: $collecting = TRUE$

        grd1_2: $coins \neq \varnothing$

        grd1_3: $tobechecked = \varnothing$

        thm1_1: ⟨theorem⟩ $checked = coins$

            Nice to show that we have checked all coins

    then

        act1_1: $oddcoins := collected$

        act1_2: $collecting := FALSE$

    end

END