

An Event-B Specification of Q1 Generated Date: 22 Sep 2008 @ 01:41:31 PM

MACHINE Q1

This example is concerned with refinement of guards in events. The actions are intended to be representative of general actions. Main concern is with resolving nondeterminism.

VARIABLES x n **INVARIANTS** $inv1 : x \in \mathbb{N}$ $inv2 : n \in \mathbb{N}$ **EVENTS****Initialisation****begin** $act1 : x := \mathbb{N}$ $act2 : n := \mathbb{N}$ **end****Event** E1 $\hat{=}$ **when** $grd1 : x = 1$ **then** $act1 : n := 1$ **end****Event** E2 $\hat{=}$ **when** $grd1 : x < 5$ **then** $act1 : n := 2$ **end****Event** E3 $\hat{=}$ **when** $grd1 : x > 3$ **then** $act1 : n := 3$ **end****Event** E4 $\hat{=}$ **when** $grd1 : x \geq 4$ **then** $act1 : n := 4$ **end****END**