

<b>An Event-B Specification of Q1R</b> <b>Generated Date: 22 Sep 2008 @ 01:04:06 PM</b>
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**MACHINE** Q1R

This solution is only one of many

**REFINES** Q1

**VARIABLES**

$x$

$n$

**EVENTS**

**Initialisation**

**begin**

$act1 : x \in \mathbb{N}$

$act2 : n \in \mathbb{N}$

**end**

**Event** E1  $\hat{=}$

**Refines** E1

**when**

$grd1 : \perp$

**then**

$act1 : n := 1$

**end**

**Event** E2  $\hat{=}$

**Refines** E2

**when**

$grd1 : x \leq 3$

**then**

$act1 : n := 2$

**end**

**Event** E3  $\hat{=}$

**Refines** E3

**when**

$grd1 : x = 4$

This could be strengthened to false, as could any of the guards, but that would be strengthening the guards too far. However, Rodin appears to accept it!

**then**

$act1 : n := 3$

**end**

**Event** E4  $\hat{=}$

**Refines** E4

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when
  grd1 :  $x \geq 5$ 
then
  act1 :  $n := 4$ 
end
END
```