

Thread 1	Thread 2
<code>atomic {</code> <code>  r1 = x;</code> <code>  r2 = x;</code> <code>}</code>	<code>x = 1;</code>

Can  $r1 \neq r2$ ?

(a) Non-repeatable reads

Initially $x == 0$	
Thread 1	Thread 2
<code>atomic {</code> <code>  r = x;</code> <code>  x = r + 1;</code> <code>}</code>	<code>x = 10;</code>

Can  $x == 1$ ?

(b) Lost updates

Initially $x$ is even	
Thread 1	Thread 2
<code>atomic {</code> <code>  x++;</code> <code>  x++;</code> <code>}</code>	<code>r = x;</code>

Can  $r$  be odd?

(c) Dirty reads