

Re: socially challenged????!??

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*Source:* <http://coding.derkeiler.com/Archive/Lisp/comp.lang.lisp/2007-07/msg00347.html>

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- *From:* Ken Tilton <kennytilton@xxxxxxxxxxxxxx>
  - *Date:* Thu, 05 Jul 2007 13:22:36 -0400
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Duane Rettig wrote:

Ken Tilton <kennytilton@xxxxxxxxxxxxxx> writes:

<sigh> So close, yet so far. You failed to connect this deep insight with my original response to the riddle: it ain't about set theory.

I agree here.

As with statements such as "I always lie.", an attempt to determine the truth leads to an infinite recursion.

I disagree here. But first, some background: As an ex-hardware guy, I am always amazed at programmers and logicians alike who take these paradoxes as being an issue. Like you, I recognize them for what they are and dismiss them, but others must agonize over the horrible flaw in logic that makes the whole field of logic suspect. However, in the hardware world, and especially in the world of digital electronics, we have a specific term for these paradoxical situations, and we have compartmentalized them very nicely and made good use of them: they are called oscillators. In simplest digital logic terms, an oscillator is an inverter (a NOT gate, if you will – if the input is a 1 the output is a 0 and vice versa) whose output feeds back into its input. What happens, during its operation, is that the natural delays (and usually some elements are added to force longer delays) in the electronics will cause the output to oscillate between 0 and 1, usually at regular intervals. What is such a device good for? Well, when you talk about your 2.3Ghz laptop, you are describing the frequency at which the basic system's oscillator, or clock, changes from 0 to 1 and back to

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0. So almost everyone (not only hardware geeks) refer to such oscillators once in a while.

Finally, the statement of the previous poster that there is no time element is naive; in pure logic there is theoretically no delay between the input and output of a logic element, but in real life there is always a delay. In hardware I have seen inverters that will oscillate between 0 and 1 at some rate which depends on the natural delay within its gate (this is the most common case, because in digital logic pains are taken to ensure that there are only two states; in technical terms the transistors are biased to ensure saturation in both directions), but I have also seen inverters which have a very strong analog component to them; when these are hooked up as oscillators (or, more frequently, when a flaw in the circuitry causes them to be joined in that way accidentally, they don't oscillate, but instead they will settle into a stable state somewhere in the no-mans-land of voltage that is between a 0 and a 1. Obviously, these aren't as useful.

Now, back to my issue; it is true that recursion and iteration are essentially the same, but recursion implies depth, and iteration implies passage of time, so this is really an infinitely oscillating iteration.

Well, to determine the truth of "I always lie" I must examine all my assertions to determine if each is true. No problem, I am a man of few words. One of my assertions is that I have a pack of hounds for troll hunts. Fine, I lied. Another is that I always lie. Ok, let's see if that one is true...

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<http://www.theoryyalgebra.com/>

"Algebra is the metaphysics of arithmetic." – John Ray

"As long as algebra is taught in school,  
there will be prayer in school." – Cokie Roberts

"Stand firm in your refusal to remain conscious during algebra."  
– Fran Lebowitz

"I'm an algebra liar. I figure two good lies make a positive."  
– Tim Allen

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