Re: Calculus XOR Probability

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- *From*: Tony Orlow <aeo6@xxxxxxxxxxx>
- *Date*: Wed, 17 May 2006 14:59:11 −0400

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imaginatorium@xxxxxxxxxxxxx said:

> Tony Orlow wrote:
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>> Matt Gutting said:
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>>> Tony Orlow wrote:
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>>>> MoeBlee said:
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>>>>>>> Tony Orlow wrote:
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>>>>>>>> To say all elements are finite but the set is infinite implies that there is some lartgest finite with an

infinite successor.

In what theory? In set theory? No, what you said is not true of set theory. So in some other theory? If in some other theory, then what are its axioms and primitives and what are its definitions of 'infinite', 'largest', 'finite', and 'successor'?

I was speaking of the logic

behind the
limit
ordinals,
and how it
is flawed.

You said "To say all elements are finite but the set is infinite implies that there is some lartgest finite with an infinite successor." That statement contradicts set theory. So my question, which you did not answer, is: In what theory do you cliam that your statement holds?

And there is no flaw iin the logic behind limit ordinals. The only logic involved in set theory is first order predicate logic.

I suppose what it boils down to here is infinite induction. Since the size of the set is the successor to the maximal element in all finite sets, this relationship should hold, being an equality, in the infinite case. If that is so, then omega is successor to the largest finite, and the notion is self−contradictory. Infinite induction appears to be discredited, but the only counterexample in this thread is easily explained otherwise, and "infinity did it" doesn't fly when it comes to explaining an error of sqrt(2). The limit ordinal omega is in direct contradiction with infinite induction, so one of them is wrong. Hint: it's not infinite induction.

The problem I see with this is that the finite cases, as you yourself point out, deal with sets having maximal elements. Since this is not true for "the infinite case", I don't see how you can apply the

same reasoning
there.

Matt

*** Posted via a free Usenet account from
http://www.teranews.com ***

What does that have to do with anything? This is an inductive proof that for every finite natural, the number of naturals up to that point is finite. Does that not mean that there is no point at which the set of finite naturals is infinite? If it does not become infinite within the range of elements that it includes, how is it infinite? By including things outside the set?

I'm not prepared to discuss anything with you involving the i−word, because I have no idea what you mean by it (and I wonder if you do really).

There really is a problem with this stuff you keep saying about sets "growing", or in this case talking about the "point" at which a set "becomes" [Tinfinite]. Well, do you remember saying this:

"Yes, the set of bits is bounded for every specific pofnat, but there
is no
bound on the length of the string required for all pofnats." Tony Orlow

That's how it comes about that for any particular pofnat P given at the beginning of the argument, it is the case that the set of pofnats up to P is a finite set. But there is no Q you can give at the beginning of the argument such that Q is a pofnat, and the entire set of pofnats does not include anything exceeding Q. There is no "point" in the pofnats at which the set "becomes [Tinfinite]", but neither is there any point at which the pofnats stop. Thus those of us constrained not to use the i−word say that the set of pofnats is unending.

Brian Chandler
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I agree it's unending, and in that sense may be considered infinite, as that is compatible with the definition regarding injection into a proper subset. Within set theory, that works without contradiciton. However, I am speaking in more quantitative terms, and relying on a set of rules which determine whether an arithmetic operation produces a finite or infinite value depending on its arguments. For instance, if A and B are finite and nonzero, A+B, A−B, A*B, A/B, A^B and logA(B) are all finite, and nonzero except for subtraction if A=B.

Given those rules, and N=S^L, we can say that if S and L are both finite, that is, we have only finite length strings and a finite alphabet, then N, the size of the language so defined, is also finite. This relates directly to the naturals as well, through the digital number systems, which are languages, since any finite natural only requires a finite string, and if all strings are finite in the set, the set is also finite, given any finite number base. There is no bound on L, but if L cannot be infinite, then neither can N.

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Smiles,

Tony

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