Re: Well Ordering the Reals

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- *From*: Virgil <ITSnetNOTcom#virgil@xxxxxxxxxxx>
- *Date*: Wed, 30 Nov 2005 11:57:43 −0700

In article <MPG.1df793669defa5c198a7a6@xxxxxxxxxxxxxxxxxxxxxxxxxx>,
Tony Orlow <aeo6@xxxxxxxxxxx> wrote:

> Virgil said:
> > In article <MPG.1df62e22f9ea958f98a781@xxxxxxxxxxxxxxxxxxxxxxxxxx>,
> > Tony Orlow <aeo6@xxxxxxxxxxx> wrote:
> >
> > > Virgil said:

> > > > TO is assuming that whenever two strings are to be compared this is
> > > > possible, but without some mechanism to compare the realtive
> > > > positions of arbitrary digits, this is not possible.
> >
> > > If you do not specify the number of bits, then you don't know what number
> > > you
> > > are talking about in the first place
> >
> > Then precisely how does one specify the "number of bits"? That has been
> > my question all along!

> I answered it. Maybe you haven't gotten to that post yet. One defines the
> number of bits as a formula using N, such as log2(N) bits in 1:000...000
> denotes N, log2(N)−1 bits denotes N/2, N/2 bits denotes sqrt(N), N bits
> denotes
> 2^N, etc. etc.

Since TO's N is variable, that means that his "numbers" are variable too
so that which of two numbers is larger could depend on what the value of
N is at that moment, but cold change momentarily.
> >
> >
> >
> > > but it is not necessary to know the
> > > exact
> > > number in order to compare it with another number. It is only necessary
> > > to
> > > determine which has the most significant 1 bit where the other has a 0.
> > > Depending on how you define your numbers, this may not always be
> > > possible, but such numbers are not well−formed.

> >
> > One issue is how TO defines HIS numbers, as they are not numbers by
> > anyone else's standards. And the second is, how does TO know that his
> > "numbers" are orderable if there are such ill formed numbers that defy
> > comparisons?

> Those numbers are not part of the set.

A TO−number starting with a zero and having infinitely many zeros
following it then a 1 then infinitely many more zeros then a final zero
must always be a part of his set, at least as he has described it.

But two such TO−numbers cannot be compared for size unless one is told
in advance which is larger or that they are equal.

> Can I say that the normal binary
> system
> doesn't work because you can't tell me what 10100.10100.00100 is? You would
> say
> that's not a number in that system. Well, ...010101 is not a T−riffic number.
> It could be 1:010....0101 or 0:10101....0101, and we have no idea of the
> number
> of bits, so it is not specified correctly. That doesn't make 1:0101...0101
> ill−
> defined. It's 4N/3 (really (4N−1)/3, since there is another 1/3 not included,
> to the right of the binary point).

Then 0:0000....000010000....0000 and 0:000...010...000 are both
properly defined "numbers" in TO−numerics, so there must be some rule
for determining from their representations which is larger.

So how does one tell, strictly from their representations, which is
larger?

> > The issue is whether there is a mechanism to compare sizes of any two
> > given "TO−numbers" or not. Apparently not.

> If you give two actual T−riffic numbers, thay can always be compared.

0:0000....000010000....0000 and 0:000...010...000?
> >
> > Since there is such a method for natural numbers, TO−numbers are
> > unnatural.
>
> Oh they are not only natural, but truly organic.

They are as organic as compost and no more mathematically relevant.
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- ***Follow−Ups***:
  - ***Re: Well Ordering the Reals***
    - *From:* Tony Orlow
- ***References***:
  - ***Re: Well Ordering the Reals***
    - *From:* Tony Orlow

- Prev by Date: ***Re:Another theme of concatenated integers.***
- Next by Date: ***Re: Cardinality of the surreals***
- Previous by thread: ***Re: Well Ordering the Reals***
- Next by thread: ***Re: Well Ordering the Reals***
- Index(es):
  - ***Date***
  - ***Thread***