Re: The Collatz discrete primes!

Source: http://sci.tech−archive.net/Archive/sci.math/2007−03/msg06079.html

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- *From*: "Danny" <fasttrack2a@xxxxxxxxxxxxx>
- *Date*: 31 Mar 2007 07:43:33 −0700

On 30 Mar, 23:43, "mensana...@xxxxxxxxxxx" <mensana...@xxxxxxx> wrote:

> On Mar 30, 7:15?pm, "mensana...@xxxxxxxxxxx" <mensana...@xxxxxxx> wrote:
>
> > On Mar 30, 9:22 am, "Danny" <fasttrac...@xxxxxxxxxxxxx> wrote:
> >
> > > On 24 Mar, 18:21, "mensana...@xxxxxxxxxxx" <mensana...@xxxxxxx> wrote:
> > >
> > > Pondering a counter example inCollatz3x+1 is all hypothetical of
> > > course an the implications if there is one is
> > > interesting but hard to comprehend because it not only involves
> > > the integers in the loop but larger integers in a reverse path
> > > doubling outside the loop.
> >
> > Yes, they double outside the loop, but they can also get
> > smaller due to arbitrarily long chains of 2(mod3). Keep in
> > mind that an actual counter example in 3n+1 would be a HUGE
> > loop (at least 275000 numbers). I would think that the range
> > of numbers inside the loop cycle would be quite large. It may
> > be that the required length of 2(mod3) chain means you won't
> > see a smaller number outside the loop cycle on the counter
> > example tree.

Drat, that was a stupid thing to say.

Purity is realative. The sequence vector [1,1,1,1,4] _always_ produces an impure number. 2(mod3) chains needn't be any longer on the counter example tree than on the regular tree.

> OTOH, there awould be a LOT of branches on a counter example tree.
>
> > I have been pondering your explanation about the counter example being pure or impure but my thought is that the smallest odd integer in the counter example path would have to be pure.
>
> I'm not saying it isn't pure, I just don't know enough to decide.
>
> > This brings up another question, is this true,
> > where the smallest (pure) odd integer does not necessarily have to be included in the counter example loop but just a lead in to this counter example loop?
>
> The portion of the tree outside the loop would contain an infinite quantity of pure numbers. Every odd number in the counter example loop cycle must be 1(mod3) or 2(mod3) and every one throws a branch upwards to infinity. All such branches produce an infinite number of sub−branches, one third of which will be 0(mod3). And every odd 0(mod3) number is pure.
>
> Of course, there ought to be pure numbers based on 1(mod3) also. And who knows, there may be even "vacuously pure" numbers, i.e., numbers where the smaller candidates are on the other tree.

> > In other words a (pure) odd integer starting a side path
> > leading into the counter example loop but not in the actual
> > repeating loop

> Definitely.

> > and also maintaining its smallest value against
> > each of the values in the entire counter example!

> Don't know, can't say.

> > Dan− Hide quoted text −

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It appears you do not want to commit to the idea that
an odd pure (only) will trigger a counter example
if indeed a counter example exists?
I could be wrong here in my assumption.

Explaining it better, I still maintain that if there is a
counter example and you are doing a sequential seed
search, which is the only way to find all the pures,
then the first odd integer would have to be pure
that leads into or is part of this loop.
With a further explanation, if it were not a pure
odd then how would you explain that every integer
connected with this counter example has to be pure
to the entire Collatz tree.

So as a counter example it would have to be an infinite
pure tree made infinite because of the reverse doubling
effect where this pure tree falls outside of the infinite
Collatz tree!

In the above sentance translation −−−
(infinite = −−−−>oo) or approching infinity.

Hard to imagine because now when this pure is found

in the sequential seed search,IF EVER, it creates more
pures in the Collatz tree but these pures will never
be entered in the sequential seed search for pures in the
Collatz tree. In other words skipped over because they
are not part of the Collatz tree. Only the first key seed
odd pure will be entered exposing the counter example.

Then who is to say that another or more counter examples
exist creating 2 or more sepparate trees outside the Collatz
tree?

Is this just a little food for thought or my logic gone
awry in the pursuit of a proof of the 3x+1 problem?

Dan

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