

sci.math: Re: ***** CAN ANYONE HERE DEFINE CHAITIN'S OMEGA ? *****

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From: |-|erc (*H_at_r.c*)

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"The Ghost In The Machine" <ewill@sirius.athghost7038suus.net> wrote

> > > *then omega_U = infinity.*

> > >

> > > *This is not in error although one might question the assumptions.*

> > >

> >

> > *why is it not an error?*

>

> *Because it is not. Given your assumptions and the computation*

> *given of bitsize, it's a foregone conclusion.*

Are probabilities allowed to reach oo?

>

> > *why are u adding exponential sums?*

>

> *The issue is similar to the harmonic series, and diverges for much*

> *the same reason. If bitsize(x) = n then x must be between*

> *2^n (inclusive) and 2^(n+1) (exclusive), which gives 2^n - 1*

> *numbers to play with, each of weight 2^(-n). The factor*

> *is therefore (1 - 1/2^n), and the total sum diverges without*

> *bound if one includes every program, not merely the halting*

> *ones (one might call that omegamax_U).*

>

> *Even if only a third of the programs halt, one still sees*

> *divergence without bound.*

>

> *If you're not familiar with the harmonic series:*

>

> *Let S = 1 + 1/2 + 1/3 + 1/4 + ... + 1/n + ...*

Your sequence is 1 + 2 + 4 + 8 + 16...

For what halt values would it ever converge?

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