

sci.logic: Re: THIS STATEMENT HAS NO PROOF IN ANY SYSTEM = true or false?

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*From:* Ajoy K Thamattoor ([ajoyk\\_at\\_cs.stanford.edu](mailto:ajoyk_at_cs.stanford.edu))

*Date:* 01/18/05

Date: Mon, 17 Jan 2005 20:49:35 -0800  
To: Torkel Franzen <[torkel@sm.luth.se](mailto:torkel@sm.luth.se)>

Torkel Franzen wrote:

> *Ajoy K Thamattoor* <[ajoyk@cs.stanford.edu](mailto:ajoyk@cs.stanford.edu)> writes:  
>  
>  
>> *Yes, each computable function is computable with an*  
>> *algorithm (in other words, recursive), but the set of computable*  
>> *functions would be uncountably infinite.*  
>  
>  
> *There are only countably many algorithms.*

You have ignored the second part – there is no requirement that a definition of a set provide an algorithm for determining membership in the set. The set of computable functions is one such set (ie., one with a valid definition but no algorithmic way to validate membership). If your argument is that a "definition" is meaningful only if it is represented by a sound algorithm, then, well, that is a matter of perspective (it would, of course, rule out a lot of interesting definitions, though).

Ajoy.