

## Re: A question on GIT.

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**Date:** 09/10/04

Date: Fri, 10 Sep 2004 07:56:44 +0200

peter\_douglass wrote:

> "Herman Jurjus" <[h.jurjus@hetnet.nl](mailto:h.jurjus@hetnet.nl)> wrote in message  
> [news:2qbpsuFsgsjpU1@uni-berlin.de...](mailto:news:2qbpsuFsgsjpU1@uni-berlin.de...)  
>  
>> peter\_douglass wrote:  
>  
>  
>>> What do you mean by "the only models of your theory would  
>>> be non-standard?" What do you mean by non-standard numbers?  
>  
>  
>> There exist models of PA (or Presburger Arithmetic, for that matter)  
>> that contain an element  $x$  such that  
>>  $0 < x, 1 < x, 2 < x$ , etc.  
>> This is a consequence of what one calls the 'compactness theorem' for  
>> first order predicate logic.  
>> Such 'unintended' models of PA are called non-standard, and  $x$ 's having  
>> that property are called non-standard.  
>  
>  
> OK, that explains what you mean by non-standard, i.e. that there  
> exists elements which are not in the standard model. Given that  
> definition, is it true that the only models would be non-standard?  
> I would think that any model of PA would also be a model of  
> Presburger Arithmetic, given what I think you mean by model.

If PA is inconsistent and Presburger is not, then ... ?

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Cheers,  
Herman Jurjus