Re: incompleteness of first−order logic

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- *From*: "Li Yi" <liyi.cn@xxxxxxxxx>
- *Date*: 30 Jan 2006 06:02:46 −0800

Yes, p is an arbitrary sentence.

T is Complete, if for any sentence p, it holds T |/− p => T |− not p.

How to prove it in propositional logic?

Could you please show a concrete example to
Th M |/= forall y R(c,y)
Th M |/= exists y not R(c,y).

The book written by my teacher says it is true in first−order logic.

Thank you.
Jan Burse wrote:
> Jan Burse wrote:
> >> M is a model. Let Th M = {p : M |= p}.
> >> Show that Th M is a complete theory, that is to say, Th M |/= p => Th M
> >> |= not p.
> Sorry, do you mean by p an arbitrary sentence.
> Then it is true in the propositional case.
> But false in the predicate logic case.
>
> The reason is that in your univers U of M
> you might have elements which might not
> have terms in your language.
>
> Thus for example it could be that Th M |/=
> forall y R(c,y), and Th M |/= exists y
> not R(c,y).
>
> Must think about such an M, let me see in a
> next E−mail.

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◊ *From:* Jan Burse

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