

Re: interpolation theorem of propositional logic

Source: <http://sci.tech-archive.net/Archive/sci.logic/2006-04/msg00154.html>

- *From:* Jan Burse <janburse@xxxxxxxxxxxx>
 - *Date:* Fri, 14 Apr 2006 15:47:25 +0200
-

BTW: Often the interpolation theorem is not only formulated for formulas, but rather for sequents.

That is α and β are sequents, i.e. lists or multisets of formulas. And if $\alpha \vdash \beta$, then there is another sequent γ such that:

$\alpha \vdash \gamma$ and (i)
 $\gamma \vdash \beta$ and (ii)
 $S(\gamma) \subset S(\alpha) \cap S(\beta)$ (iii)

Whereby S has to be defined. You can also take into account the polarity of predicates. So if a predicate P occurs positively the P^+ is in S . If it occurs negatively then P^- is in S .

When you allow sequents you don't run into the $\text{true}/p \vee \sim p$ problem with condition (iii).

Bye

David C. Ullrich wrote:

On Thu, 13 Apr 2006 13:24:15 +0200, Jan Burse <janburse@xxxxxxxxxxxx> wrote:

David C. Ullrich wrote:

On Wed, 12 Apr 2006 13:29:30 +0200, Jan Burse <janburse@xxxxxxxxxxxx>

Re: interpolation theorem of propositional logic

wrote:

Hi

David C. Ullrich wrote:

On 11 Apr 2006 03:36:16
-0700, "Li Yi"
<liyi.cn@xxxxxxxxxx>
wrote:

If $\alpha \models \beta$, then
there is
some
 γ all
of whose
sentence
symbols
occur in
both α
and β
and such
that $\alpha \models \gamma$
 $\gamma \models \beta$.

This is obviously false.
Hint: The weaker statement
"If $\alpha \models \beta$, then there
is some γ all of whose
sentence symbols occur in
both α and β "
is obviously false.

Depends on what one understands by
sentence symbols.

The subject line specifies `_propositional_ logic`.
There's a perfectly standard notion of "sentence

Re: interpolation theorem of propositional logic
symbol" in propositional logic