

Problem #49

Originator: Miki Hermann

Date: December 1991

Summary: Can completion always be made terminating when limiting the depth of occurrences of critical pairs?

Suppose ordinary completion (as in [DJ90], for example, is non-terminating for some initial set of equations E , completion strategy, and reduction ordering. Must there be a finite depth N for E such that for any $n > N$ restricting the generation of critical pairs to overlaps at positions that are no deeper than n in the overlapped left-hand side (but otherwise not changing the strategy) also produces a non-terminating completion sequence?

Bibliography

- [DJ90] Nachum Dershowitz and Jean-Pierre Jouannaud. Rewrite systems. In J. van Leeuwen, editor, *Handbook of Theoretical Computer Science*, volume B: Formal Methods and Semantics, chapter 6, pages 243–320. North-Holland, Amsterdam, 1990.