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Type checking by domain analysis in Ampersand. (English) [Zbl 06527610]


Summary: In the process of incorporating subtyping in relation algebra, an algorithm was found to derive the subtyping relation from the program to be checked. By using domain analysis rather than type inference, this algorithm offers an attractive visualization of the type derivation process. This visualization can be used as a graphical proof that the type system has assigned types correctly. An implementation is linked to in this paper, written in Haskell. The algorithm has been tried and tested in Ampersand, a language that uses relation algebra for the purpose of designing information systems.

For the entire collection see [Zbl 1325.68019].

MSC:

68Qxx Theory of computing

Software:

Ampersand; Haskell

Full Text: DOI