

Jeffrey, Alan; Rathke, Julian

Java Jr.: Fully abstract trace semantics for a core Java language. (English) [Zbl 1108.68349](#)
Sagiv, Mooly (ed.), Programming languages and systems. 14th European symposium on programming, ESOP 2005, held as part of the joint European conferences on theory and practice of software, ETAPS 2005, Edinburgh, UK, April 4–8, 2005. Proceedings. Berlin: Springer (ISBN 3-540-25435-8/pbk). Lecture Notes in Computer Science 3444, 423-438 (2005).

Summary: We introduce an expressive yet semantically clean core Java-like language, Java Jr., and provide it with a formal operational semantics based on traces of observable actions which represent interaction across package boundaries. A detailed example based on the Observer Pattern is used to demonstrate the intuitive character of the semantic model. We also show that our semantic trace equivalence is fully-abstract with respect to a natural notion of testing equivalence for object systems. This is the first such result for a full class-based OO-language with inheritance.

For the entire collection see [\[Zbl 1068.68008\]](#).

MSC:

- [68N15](#) Theory of programming languages
- [68N19](#) Other programming paradigms (object-oriented, sequential, concurrent, automatic, etc.)
- [68Q55](#) Semantics in the theory of computing

Cited in **10** Documents

Software:

[Java Jr](#)

Full Text: [DOI](#)