

Pierik, Cees; de Boer, Frank S.

A syntax-directed Hoare logic for object-oriented programming concepts. (English)

Zbl 1253.68087

Najm, Elie (ed.) et al., Formal methods for open object-based distributed systems. 6th IFIP WG 6.1 international conference, FMOODS 2003, Paris, France, November 19–21, 2003. Proceedings. Berlin: Springer (ISBN 3-540-20491-1/pbk). Lect. Notes Comput. Sci. 2884, 64-78 (2003).

Summary: This paper outlines a sound and complete Hoare logic for a sequential object-oriented language with inheritance and subtyping like Java. It describes a weakest precondition calculus for assignments and object-creation, as well as Hoare rules for reasoning about (mutually recursive) method invocations with dynamic binding. Our approach enables reasoning at an abstraction level that coincides with the general abstraction level of object-oriented languages.

For the entire collection see [Zbl 1029.00058].

MSC:

68N19 Other programming paradigms (object-oriented, sequential, concurrent, automatic, etc.)

03B70 Logic in computer science

68N15 Theory of programming languages

Cited in **9** Documents

Software:

JML

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