modern compiler implementation in Java

new edition coming October 2002

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new features

A new, easy-to-use software project, available now to preview

Solution sets for exercises available to lecturers

Expanded coverage of object-oriented concepts

Difficult sections re-written for even greater clarity

www.cambridge.org/computerscience/appel
Covering all phases of a compiler, this popular textbook represents excellent coverage of current techniques in code generation and register allocation. It even covers the compilation of functional and object-oriented languages missing from most books. Using actual Java Classes for illustration, the book’s efficient description of accepted and successful techniques means it avoids becoming a dull catalogue of every possible variant.

The first part of the book, Fundamentals of Compilation, is suitable for a one-semester first course in compiler design while part two, Advanced Topics, includes material suitable for a second-semester or graduate course. This new edition, developed with contributions from Jens Palsberg and Vids Samanta, has been rewritten to include more discussion of Java and object-oriented programming concepts, such as visitor patterns. A unique feature is the newly redesigned compiler project in Java, for a subset of Java itself. The project includes both front-end and back-end phases, so that students can build a complete working compiler in one semester.

From reviews of the first edition:

‘... a textbook example of an excellent textbook.’
Infoworld

‘...written in a simple style that makes a technical book so much easier to read.’
CVu

‘Serves its intended purpose as a classroom textbook, fitting comfortably and usefully between cookbooks and encyclopedias on compilation.’
Computing Reviews

‘...the book is a pleasure to read or study ... warmly recommended’
Science of Computer Programming