

Object Orientation: A Mathematical Perspective

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Abstract:

The machinery of object orientation (OO) has been greatly clarified and streamlined since its introduction 50 years ago, but the programming industry is still largely stuck in the primeval conceptions and terminology of OO. In fact, when we look past certain needless complications, all that is truly distinctive about OO is inherent in the curriculum of 5th grade mathematics. This paper explains and illustrates OO's genuinely distinctive features, and illustrates how they occur quite commonly, without fanfare or fancy jargon, in grade school math. It then illustrates how these features have been refactored in equally simple terms into cutting edge programming languages such as Oberon, Haskell, and SequenceL, using SequenceL as an illustrative example.

Bio:

Nelson Rushton is received his Ph.D. in mathematics and MS in artificial intelligence, both from the University of Georgia. He is an associate professor of computer science at Texas Tech University. Dr Rushton is a co-inventor (with Michael Gelfond and Chitta Barral) of the P-log knowledge representation language, co-inventor (with Dan Cooke and Brad Nemanich) of the SequenceL functional programming language, and serves in a part time role as chief scientist of Texas Multicore Technologies, Inc.