Growing Use of Assertions

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Assertions (logical annotations characterizing program execution states) have, over the past thirty years, emerged as an essential tool for reasoning about programs and constructing correct programs. This talk surveys the surprisingly diverse uses to which people have been subjecting assertions, both in the theory of programming and in particular software systems.

Sir Tony Hoare has been involved in programming methods and languages since the early 1960's, first at the Queen's University in Belfast, and later at Oxford University, as head of the Programming Research Group. He has contributed to proof techniques for programs and distributed computing. Hoare is a designer of the CSP system on which the OCCAM language and the transputer design are based. Currently at the Microsoft Research Laboratory, Cambridge, his research interests include linking theories of programming, and the application of these theories to the problems of legacy code. He is the recipient of the ACM's Turing Award (1980) and the Kyoto Prize (2000).