



Department of Computer Science

Informal Seminar/ Reading Group on Software Verification and Distributed Systems

Programming Languages, Denotational Semantics, and Domains: A Historical Overview

Prof. Jimmie Lawson

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Date: April 16, 2010

Time: 1-2 PM

Place: 256, Coates Hall

Abstract

In this talk we revisit the pioneering work of Dana Scott and Christopher Strachey in realizing and showing that a small number of semantic constructs can often provide an adequate conceptual basis for defining formal models of the meaning of a programming language. Their work blossomed into what has come to be known as denotational semantics, an approach to formalizing the meanings of programming languages by constructing mathematical objects (called denotations) that describe the meanings of expressions from the languages. Broadly speaking, denotational semantics is concerned with finding mathematical objects called "domains" that represent what programs do. An important tenet of denotational semantics is that semantics should be compositional: the denotation of a program phrase should be built out of the denotations of its sub-phrases. The talk will be informal and the concepts will be explained and illustrated with some elementary examples. Laboratory

All are invited.