

ABSTRACT DATA TYPES AND THE DEVELOPMENT OF DATA STRUCTURES

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ABSTRACT

Abstract data types can play a significant role in the development of software that is reliable, efficient, and flexible. This paper presents and discusses the application of an algebraic technique for the specification of abstract data types. Among the examples presented is a top-down development of a symbol table for a block structured language, including a discussion of the proof of its correctness. The paper also contains a brief discussion of the problems involved in constructing algebraic specifications that are both consistent and sufficiently-complete.

In accordance with ACM publication policy, only an abstract of this paper has been included in the Conference proceedings, since the paper is being considered for publication elsewhere. Pre-prints of the paper were distributed to Conference participants.