

1. Record Nr.	UNISA996465589003316
Autore	Uhl Jürgen
Titolo	A Systematic Catalogue of Reusable Abstract Data Types [[electronic resource] /] / by Jürgen Uhl, Hans A. Schmid
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1990
ISBN	3-540-46777-7
Edizione	[1st ed. 1990.]
Descrizione fisica	1 online resource (XIV, 344 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 460
Disciplina	005.7/3
Soggetti	Software engineering Programming languages (Electronic computers) Software Engineering Programming Languages, Compilers, Interpreters
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Motivation and objectives -- How to reuse abstract data types -- Structure of the catalogue -- Structure of the building blocks -- The building blocks -- Technical issues -- Case study: A file compression system.
Sommario/riassunto	This book presents a comprehensive catalogue of elementary data types like sets, maps, orders, trees and lists, written in Ada. Such data types are often used in systems programming. The major focus is on: - a uniform syntactic and semantic interface for all data types, - many implementation variants per data type, all accessible through a single interface, - a hierarchical system of the data types as a basis for data type selection and implementation. Meeting these goals is the main achievement of the book. The combination of efficient applicability and ease of learning and maintenance is achieved by the carefully elaborated interfaces of the catalogue's data types. These interfaces combine abstraction, which is necessary for easy learning and for leaving implementation freedom, and functional completeness, which is an essential prerequisite for high performance in different application contexts. The selection of the right data type implementation for a given context is supported by the data type hierarchy which imposes different abstraction levels, and an orthogonal scheme of

implementation variants which can be freely combined. Together with the uniformity of interfaces, the hierarchical composition of the catalogue leads to a small code base, from which different implementation variants are generated using a macro processor.
