HEHNER83

Hehner, E.C.R.; The Logic of Programming; to be published in the Prentice-Hall International Series in Computer Science (C.A.R. Hoare, series editor). Ms. dated 1983, July 6.

This book is intended to be a self-contained introduction to the subject of Programming Methodology. It assumes little, if any, specific mathematical knowledge, nor does it require a background in computer programming to understand the text (although presumably an informed reader might obtain more from it than would a novice).

The author is of the opinion (and justifiably so) that good computer programming cannot be learned without an appreciation of the mathematics behind the operational models. For this reason, the first third of the book does not deal with programming per se, but instead introduces the reader to a variety of topics required for correctness concerns: topics such as sentential and predicate logic, number types and "bunches" (a formal simplification of sets introduced by the author), names and definitions, and sequences and grammars. Once this background material has been presented, the author introduces his programming language, Pro, a simple, yet elegant language which facilitates a mathematical style of program composition.

Only now, once the reader has been supplied with all of the necessary "tools", is the subject of computer programming broached. The author presents a variety of rules and constructs, formally defining each one, and illustrating each with examples.

The book is well-written, and easy to read. The author has included numerous "asides" which help relate the material being presented to concepts with those readers with programming experience should be familiar. By using this approach, this book is equally useful to beginning and experienced programmers.

All in all, this book would seem to be a good choice for anyone wanting to learn more about computer programming, and specifically about programming methodology.