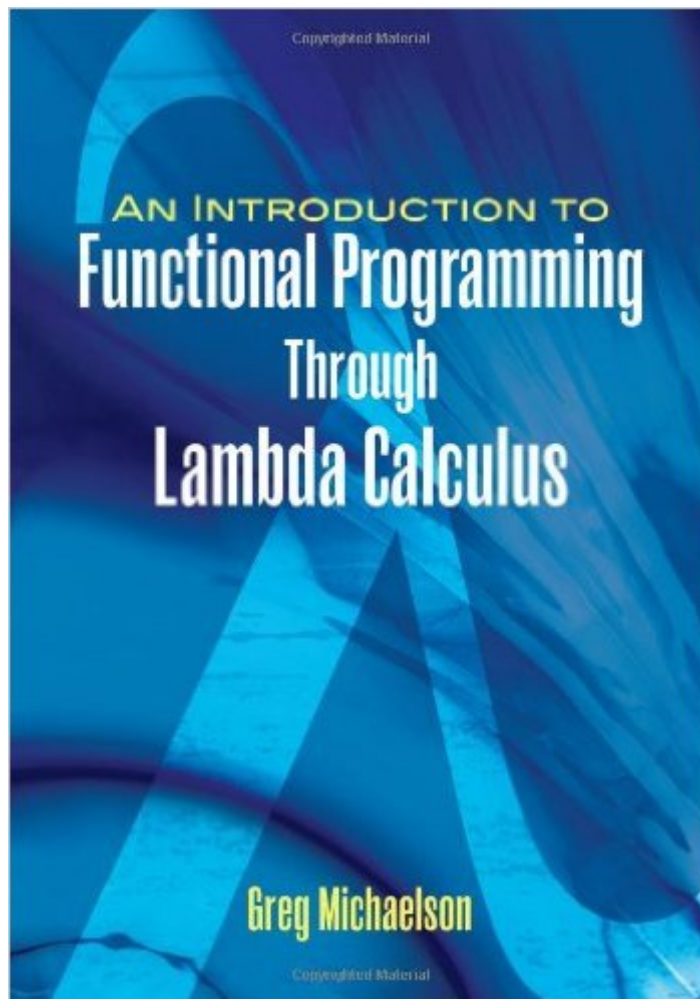# An Introduction To Functional Programming Through Lambda Calculus (Dover Books On Mathematics)

Synopsis

Functional programming is rooted in lambda calculus, which constitutes the world's smallest programming language. This well-respected text offers an accessible introduction to functional programming concepts and techniques for students of mathematics and computer science. The treatment is as nontechnical as possible, and it assumes no prior knowledge of mathematics or functional programming. Cogent examples illuminate the central ideas, and numerous exercises appear throughout the text, offering reinforcement of key concepts. All problems feature complete solutions.

Book Information

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Customer Reviews

I've been trying to dive into functional programming, so I bought this book. The first chapter or so was a bit off in my opinion. The author should have covered why lambda calculus was invented and done a better job of giving a general overview. However, after looking up a few things online and getting a handle on it, this turned out to be a really amazing book. The author essentially teaches you how to build an entire programming language from first principles. It's quite a journey, actually. And in the process you actually understand how functional programming works. Knowing only beginner python I was able to follow along quite easily and if anything the author went into too much detail. So I found the pacing to be wonderful and because you understand everything that went on previously, the next part really isn't much of a leap. Many confusing functional programming

peculiarities like partially applied functions, prefix notation, it's heavy use of recursion (and how it is applied) is a piece of cake. The book concludes with looking at two real programming languages, both of which are still extremely relevant today, and comparing it to the stuff we've been inventing with lambda calculus. The two example languages are Standard ML (which Haskell is largely derived from, for instance) and Common Lisp (which is the other major functional family of languages around today if you ignore prolog).So even though this is an old book, there's not a whole lot about it that's dated. If anything, it's dated in a very good way: it doesn't use academic language or assume you know a lot of programming concepts (many of which hadn't even been invented, so maybe that's part of it) or anything like that. It's easy to follow along with and lambda calculus is actually kind of fun.

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