Programming in Meruem

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September 2015

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Introduction

0.1   About the book

This book is a tutorial for the Meruem programming language, written by the people who developed the current version of Meruem. Our goal is to teach you the introductory concepts of functional programming and (to some extent) metaprogramming using the Meruem language.

0.2   Who should read this book

If you are someone looking for the next popular programming language to master and doesn't feel like learning new and more mathematical ways of solving problems for now, then this tutorial is not for you. There are many options for new languages out there, but Meruem is not (yet) one of them.

That said, if you are someone willing to spend a lot of time mastering not just a new programming language but also new programming paradigms, hoping that you will be able to apply all the knowledge you can gain from this book with any other programming languages you already know, then this book is for you.

0.3   Programming background required

This book is written primarily for imperative and/or object-oriented programmers who want to learn functional programming and metaprogramming, or people who don't know programming at all. If you are already familiar with functional programming and metaprogramming, then most of the contents here will not be new to you, but this book can still serve as a review material.

Chapter 1

Starting Out

1.1   What is Meruem?

Meruem is a dynamically-typed interpreted programming language that supports both *functional programming* and *metaprogramming*, and runs on top of the *Java Virtual Machine*(JVM).

Meruem is also a *Lisp* dialect. That means it has most, if not all, of the characteristics common to all Lisps, like *homoiconicity*, *macros*, and a small, simple and elegant core.

1.2   Why learn Meruem?

Meruem will change the way you think about programs, programming, and problems in general. The things that you will learn from this book will still be applicable to your day-to-day job as a programmer, even if you are using a different and more mainstream programming language. This is because learning Meruem is not just learning a new programming language, it's learning completely new programming paradigms. Knowing different programming paradigms (imperative, OOP, FP, etc) is always a good thing since it would give you different ways of solving problems. After you've learned Meruem, you'd realize that there's more to programming than just *imperative programming*.