

Introduction to Functional Programming in *OCaml*

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Week 0 - Sequence 0: Introduction to the Course



The name of the game

John Carmack

*Sometimes, **the elegant implementation is a function.**
Not a method. Not a class. Not a framework.
Just a function.*



- ▶ an introduction to **functional programming**
- ▶ using the *state-of-the-art* **OCaml** programming language
- ▶ exploiting an exercise environment **right in your browser** using **ground-breaking technology** based on *OCaml* itself

Learning objectives

- ▶ learn to **program using the functional style**
- ▶ know the basics of ***OCaml's* advanced type-system**
- ▶ discover the power of the **concise** manipulation of **user defined complex data structures**
- ▶ start to explore ***OCaml's* rich and powerful features**
- ▶ discover *OCaml's* dynamic and growing **ecosystem**

Organisation

- ▶ **seven** weeks
- ▶ **one hour** of course per week in **several short video sequences**
- ▶ numerous **exercices**, checked for you **right in your browser**
- ▶ optional **additional material** to learn more **about *OCaml's*** advanced, real life, industrial applications
- ▶ a final full-fledged **programming exercise**

General Plan

week 0 Introduction and overview

week 1 Basic types, definitions and functions

week 2 Basic data structures

week 3 More advanced data structures

week 4 Higher order functions

week 5 Exceptions, input/output and imperative constructs

week 6 Modules and data abstraction

This week's plan

- sequence 0 Introduction to the course (you are right here!)
- sequence 1 Functional Programming: history and motivation
- sequence 2 The *OCaml* language: history and key features
- sequence 3 Why the *OCaml* language: meet the users
- sequence 4 Tools and development environment: first steps in *OCaml*!
- sequence 5 A brief showcase of some of *OCaml*'s features
- sequence 6 Overview of the available resources

Credits

Photos

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