



Introduction to Functional Programming in OCaml

The MOOC
Second edition

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The Course

In this course you will learn *Functional programming*, the programming paradigm that will allow you to write expressive, concise and elegant programs. You will see how *functions* play a central role, as *first-class values* that can be freely used in any place where an expression may appear.

This course uses the *OCaml* programming language, a member of the ML family of functional languages pioneered by Robin Milner. Through *type inference*, it reconciles the conciseness and flexibility of untyped programming languages, like Python, with the safety of strongly typed programming languages, like Java.

You will discover the powerful mechanisms that OCaml offers to build and manipulate complex data structures in a clean and efficient way, making it the language of choice for a whole range of applications.

Prerequisites Some basic knowledge of computing is expected: you should know how to write simple programs in some programming languages.

Language The course will be held in English, and subtitles are available both in English and in French.

Schedule

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

Evaluation

The course contains many small programming exercises which you will do directly in your Web browser, and a final programming project.



Classes Start

Sep 26, 2016

Classes End

Dec 12, 2016

The course is **free**
Registration is **open**

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