



Introduction

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What is this course **really** about?

Programming

- The object-oriented programming paradigm
- Object-oriented programming using a functional style
- Generic programming
- Basics of concurrent programming
- Encapsulation, and language features that support it
- A selection of important data structures

Is this a course about Kotlin?

Yes, and no

- We need to use some language for the course
- We are going to use Kotlin, therefore you will learn a lot of Kotlin!
- **But:** the aim is not to become Kotlin experts
- The aim is to become experts in the principles and practice of programming

Why are we using Kotlin?

It is a really well-designed language

Designed by Java experts to:

- Keep many elegant features of the Java language
- Address a large number of shortcomings of Java
- Maintain incredible inter-operability with Java

Other benefits:

- Excellent IDE support
- Widely used in industry (especially for Android)

What about Java?

We will cover a small amount of Java late in the term

- Lays the groundwork for future courses that make use of Java
- Worth knowing Java for coding interviews

A ton of Java code is out there – Java will probably be relevant for **centuries**

It is easy to learn extra languages once you know a few

Let's start by learning a really good language, rather than an important dinosaur!

How the course will run

All slots are lecture slots – a mixture of slides and interactive live coding

Exercises spread throughout slides – these are for you to do in your own time

Solutions to exercises provided in due course

All content is examinable – including all exercises and all material covered in labs (except lab extensions)

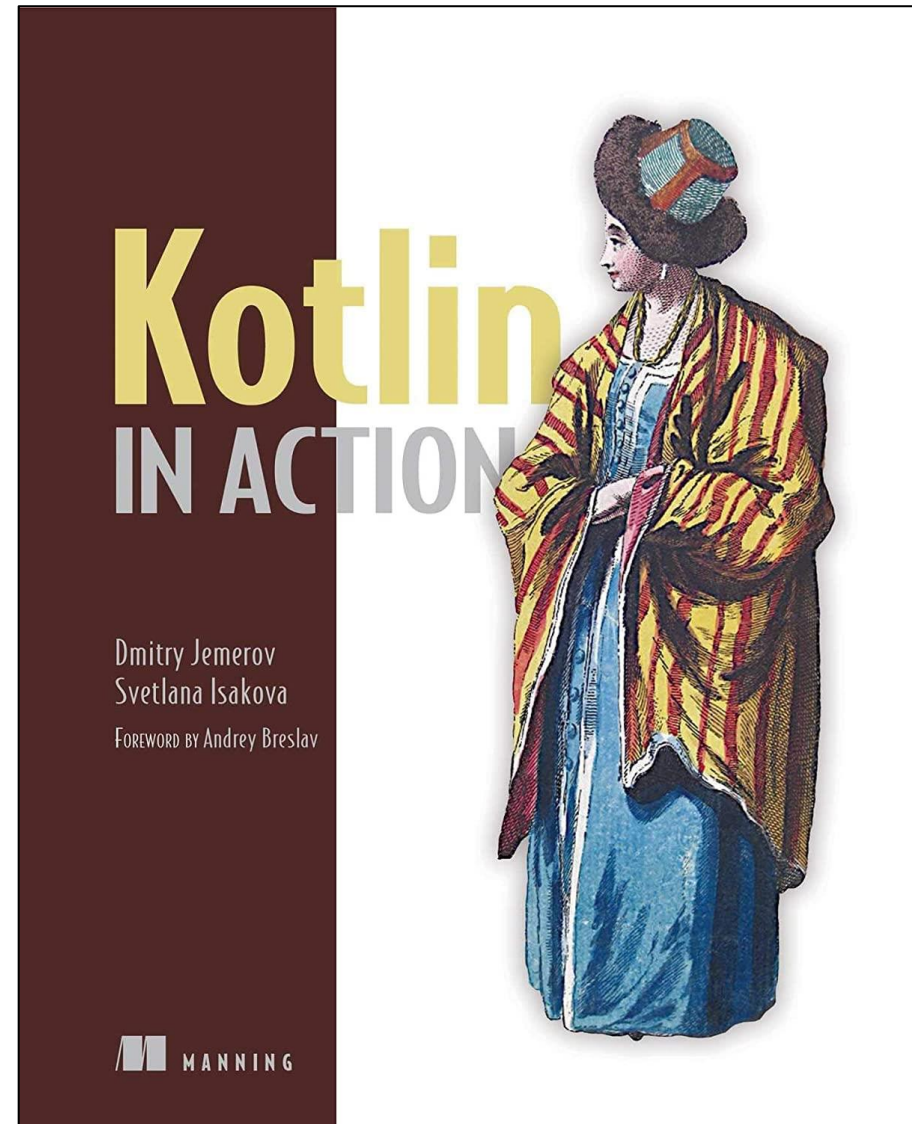
Interim test and **final test**: both may examine full course content

Example tests will be provided later in the term

A very good textbook

Kotlin in Action, Dmitry Jemerov and
Svetlana Isakova

As with most languages, there is a
lot of excellent material available
online



Let's get started!