

- Course
- CS-A1110
- Course materials
- Your points
- Form a group
- Code Vault
- Lab Queue
- Telegram chat
- Lab sessions
- Glossary
- Scala reference
- O1Library docs
- FAQ
- IntelliJ installation
- Learning goals
- Style guide
- Debugger
- Resources
- For the reader

This course has already ended.  
The latest instance of the course can be found at: **O1: 2023**

## Tervetuloa Ohjelmointi 1 -kurssille!

Tämä on **oppimisympäristö A+**, jota käytämme **O1:n** eli Ohjelmointi 1 -kurssin ja sen avoimen verkkoversion tarjoamiseen. Löydät täältä kurssin oppimateriaalin, johon on upotettu myös harjoitustehtävät. Heti tuosta alta löydät uutispalstan ja vasemmalta valikon, josta on mm. kurssin esittelyn sisältävä oppimateriaali.

Jos osaat suomea mutta A+ näkyy sinulla englanninkielisenä, vaihda kieltä -nappulalla vasemman reunan valikon yläosassa.

## Welcome to Programming 1!

This is the **A+ course platform** that we use to run the course Programming 1, better known as **O1**. You'll find all the course materials and assignments here in A+. There is a section for announcements immediately below. The menu on the left contains links to all the course info and materials.

If you're doing O1 in English but A+ shows up in Finnish, please change languages with the button near the top of the menu on the left.

Course news

Summary of end-of-course feedback

Wednesday, 16 December 2020, 13:22

We've published a summary of the course feedback that we received. Thank you for answering the questionnaire and taking part in O1!

(If you didn't answer the questionnaire yet, chop chop! We'll accept and read late feedback, too.)

Remember the end-of-course questionnaire! And the last bulletin.

Wednesday, 9 December 2020, 13:06

The last bulletin is in Chapter 13.0. The assistants' favorite games and the results of the robot tournament will also be published there.

The course feedback questionnaire is now open in Chapter 13.1. It is a mandatory component of O1. The deadline is Wednesday Dec 16th, but you might just as well fill in it right now, right?

Enjoy the holidays and happy programming!

Week 12

Wednesday, 2 December 2020, 15:49

The newest bulletin is in Chapter 12.0. The Week 12 deadline is at noon on December 9th. Week 13 contains the end-of-course feedback questionnaire; it will open right after Week 12 closes.

Show older

## Week 1

Friday, 28 August 2020, 12:00 – Wednesday, 16 September 2020, 12:00

- Chapter 1.1: Introduction to O1 5 / 5
- Chapter 1.2: Introduction to Programming 12 / 12
- Chapter 1.3: Numbers, Words, Sounds, and Pictures 13 / 13
- Chapter 1.4: Storing Values in Variables 40 / 40
- Chapter 1.5: Collections and References 20 / 20
- Chapter 1.6: Using Subprograms 20 / 20
- Chapter 1.7: Creating Custom Functions 90 / 90
- Chapter 1.8: Functions, Types, and Errors 130 / 130

## Week 2

Friday, 28 August 2020, 12:00 – Wednesday, 23 September 2020, 12:00

- Chapter 2.1: Object-Oriented Programming 25 / 25
- Chapter 2.2: Inside an Object 50 / 50
- Chapter 2.3: Classes of Objects 55 / 55
- Chapter 2.4: Inside a Class 65 / 65
- Chapter 2.5: Pictures and Positions 50 / 50
- Chapter 2.6: Many Ways to Use a Variable 55 / 55
- Chapter 2.7: A Complete Scala Application 75 / 75

## Week 3

Friday, 28 August 2020, 12:00 – Wednesday, 30 September 2020, 12:00

- Chapter 3.1: Interactive Graphics 65 / 65
- Chapter 3.2: Interfaces and Documentation 10 / 10
- Chapter 3.3: Experiences and Truths 70 / 70
- Chapter 3.4: Decisions 75 / 75
- Chapter 3.5: Soda, Football, and Errors 105 / 105
- Chapter 3.6: Decisions, Decisions 25 / 25

## Week 4

Friday, 28 August 2020, 12:00 – Wednesday, 7 October 2020, 12:00

- Chapter 4.1: Driving Practice 85 / 85
- Chapter 4.2: Containers — and a Program that Crashes 115 / 115
- Chapter 4.3: A Lack of Values 15 / 15
- Chapter 4.4: Exercises in Not Existing 140 / 140

## Week 5

Friday, 28 August 2020, 12:00 – Wednesday, 14 October 2020, 12:00

- Chapter 5.1: Logic, Blood, and Shopping 120 / 120
- Chapter 5.2: Objects Everywhere 60 / 60
- Chapter 5.3: Objects as Functions, Classes as Objects 5 / 5
- Chapter 5.4: Inside the Scala Toolkit 5 / 5
- Chapter 5.5: Looping through Elements 30 / 30
- Chapter 5.6: Loops, Strings, and Elections 220 / 220

## Week 6

Friday, 28 August 2020, 12:00 – Wednesday, 21 October 2020, 12:00

- Chapter 6.1: Functions as Parameters 90 / 90
- Chapter 6.2: Anonymous Functions 45 / 45
- Chapter 6.3: Collections and Snakes 130 / 130
- Chapter 6.4: More Collections, More Programs 163 / 165

## Week 7

Friday, 28 August 2020, 12:00 – Wednesday, 28 October 2020, 12:00

- Chapter 7.1: Laziness and Untold Repetitions 215 / 215
- Chapter 7.2: Traits 35 / 35
- Chapter 7.3: Inheritance and Class Hierarchies 70 / 70
- Chapter 7.4: A Game of Glasses 60 / 60
- Chapter 7.5: City Simulator 60 / 60

## Week 8

Friday, 28 August 2020, 12:00 – Wednesday, 4 November 2020, 12:00

- Chapter 8.1: Robots 50 / 50
- Chapter 8.2: Robots and Options 75 / 75
- Chapter 8.3: Robots and Conditional Looping 105 / 135
- Chapter 8.4: Pairs and Maps 25 / 25

## Week 9

Friday, 28 August 2020, 12:00 – Wednesday, 11 November 2020, 12:00

- Chapter 9.1: Interactive Fiction and Code Quality 80 / 80
- Chapter 9.2: Comparing, Sorting, and Grouping 120 / 120
- Chapter 9.3: Peeveli 90 / 90

## Week 10

Friday, 28 August 2020, 12:00 – Wednesday, 25 November 2020, 12:00

- Chapter 10.1: Your Text Adventure 200 / 200
- Chapter 10.2: Programming Paradigms 5 / 5

## Week 11

Friday, 28 August 2020, 12:00 – Wednesday, 2 December 2020, 12:00

- Chapter 11.1: Arrays and a Faulty Train
- Chapter 11.2: Robots That Compete 115 / 115
- Chapter 11.3: An Introduction to File I/O

## Week 12

Friday, 28 August 2020, 12:00 – Wednesday, 9 December 2020, 12:00

- Chapter 12.1: Recursion 115 / 115
- Chapter 12.2: Robot Tournament 60 / 100
- Chapter 12.3: GUIs with the Swing Library

## Week 13

Friday, 28 August 2020, 12:00 – Sunday, 28 February 2021, 23:59

- Chapter 13.1: Course-End Feedback
- Results of course feedback survey

## Supplementary Pages

Friday, 28 August 2020, 12:00 – Thursday, 1 April 2021, 12:00