

Course

- CS-A1110

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Lab Sessions

Teaching assistants support your programming studies at lab sessions, also known simply as "labs". There are several labs every day between September 7th and December 5th, 2023. This is where you can come to discuss programming with the course staff and get help on the assignments.

Note Independence Day!

Just before O1 ends, on December, 6th, 2023, is Finnish Independence Day. On that date, there's no teaching at Aalto, and thus no O1 lab sessions either.

Most labs are at the Maarintalo building ([Sähkömiehen tie 5, Espoo](#)) in the classroom **Maari-A**. However, some of the sessions are instead **online on Zoom**, as explained below on this page. Please note that in certain weeks, the on-campus labs are in a different classroom than usual, which is also detailed below.

(In addition to the labs, we provide a Piazza discussion board and a group on Telegram; see Chapter 1.1.)

The sessions start a quarter past the indicated hour, but you can come and go as you please. There's no set agenda: you can come to a session to work on the assignments and ask for advice as the need arises.

Participation is voluntary but highly recommended. You don't need to – and can't – sign up in advance.

The assistants can help you in English, Finnish, and (at some sessions) Swedish.

| Time | Dates | Location | Teaching Assistants |
|-----------|---------------------|---|---|
| Mon 8–10 | From Sep 11th, 2023 | Maari-A | Nhut Cao (en), Tuomas Nummela (fi+en) |
| Mon 10–12 | From Sep 11th, 2023 | Maari-A | Eemil Lähteenmäki (fi+en), Kirill Enckell (fi+en), Filippa Sandberg (sv+en) |
| Mon 12–14 | From Sep 11th, 2023 | Maari-A | Filippa Sandberg (sv+en), Karoliina Oksanen (fi+en), Elja Saksman (fi+en), Kirill Enckell (fi+en) |
| Mon 14–16 | From Sep 11th, 2023 | Maari-A | Filippa Sandberg (sv+en), Elmeri Lankinen (fi+en), Karoliina Oksanen (fi+en) |
| Mon 16–18 | From Sep 11th, 2023 | Maari-A | Elmeri Lankinen (fi+en), Kautilya Patel (en), Mikael Lenander (fi+en), Nuutti Kuosa (fi+en) |
| Mon 16–18 | From Sep 11th, 2023 | Remote via Zoom | Severi Koivumaa (fi+en) |
| Mon 18–20 | From Sep 11th, 2023 | Maari-A | Anton Podlozny (fi+en), Hiep Nguyen (en), Onni Miettinen (fi+en) |
| Tue 8–10 | From Sep 12th, 2023 | Maari-A | GuTing Huang (en), Joel Toppinen (fi+en) |
| Tue 10–12 | From Sep 12th, 2023 | Maari-A | Ilona Ma (fi+en), Severi Koivumaa (fi+en), Tuomas Nummela (fi+en) |
| Tue 12–14 | From Sep 12th, 2023 | Maari-A | Anton Podlozny (fi+en), Joose Eronen (fi+en), Mohammed Anwer (fi+en), Kerttu Peura (fi+en), Janne Seppälä (fi+en) |
| Tue 14–16 | From Sep 12th, 2023 | Maari-A | Antti Immonen (fi+en), Inka Viita (fi+en), Janne Seppälä (fi+en), Kerttu Peura (fi+en), Onni Komulainen (fi+en) |
| Tue 16–18 | From Sep 12th, 2023 | Maari-A | Hilkka Gröhn (fi+en), Kautilya Patel (en), Olli Ullgren (fi+en), Roosa Ripatti (fi+sv+en), Inka Viita (fi+en) |
| Tue 18–20 | From Sep 12th, 2023 | Maari-A | Hiep Nguyen (en), Olli Ullgren (fi+en), Onni Komulainen (fi+en) |
| Wed 8–10 | From Sep 13th, 2023 | Maari-A No teaching on Dec 6th (Finnish Independence Day) | GuTing Huang (en), Joel Toppinen (fi+en), Nhut Cao (en) |
| Wed 10–12 | From Sep 13th, 2023 | Maari-A No teaching on Dec 6th (Finnish Independence Day) | Eemil Lähteenmäki (fi+en), Hannes Fant (sv+en), Viola Rautaheimo (fi+en) |
| Wed 12–14 | From Sep 13th, 2023 | Maari-A No teaching on Dec 6th (Finnish Independence Day) | Joose Eronen (fi+en), Kalle Laitinen (fi+en), Nhut Cao (en), Roosa Ripatti (fi+sv+en) |
| Wed 14–16 | From Sep 13th, 2023 | Maari-A No teaching on Dec 6th (Finnish Independence Day) | Esa Elo (fi+sv+en), Kaisa Ek (fi+en), Lilli Peura (fi+en), Mohammed Anwer (fi+en), Onni Miettinen (fi+en) |
| Wed 14–16 | From Sep 13th, 2023 | Remote via Zoom No teaching on Dec 6th (Finnish Independence Day) | Kalle Laitinen (fi+en) |
| Wed 16–18 | From Sep 13th, 2023 | Maari-A No teaching on Dec 6th (Finnish Independence Day) | Elja Saksman (fi+en), Esa Elo (fi+sv+en), Lilli Peura (fi+en), Nuutti Kuosa (fi+en), Onni Komulainen (fi+en) |
| Thu 10–12 | From Sep 7th, 2023 | Maari-A | Hannes Fant (sv+en) |
| Thu 12–14 | From Sep 7th, 2023 | Maari-A | Kaarlo Kauriinvaha (fi+en), Onni Komulainen (fi+en) |
| Thu 14–16 | From Sep 7th, 2023 | Maari-A | Hilkka Gröhn (fi+en), Kautilya Patel (en) |
| Thu 16–18 | From Sep 7th, 2023 | Maari-A | GuTing Huang (en) |
| Fri 10–12 | From Sep 8th, 2023 | Maari-A | Hiep Nguyen (en), Onni Miettinen (fi+en) |
| Fri 12–14 | From Sep 8th, 2023 | Maari-A | Viola Rautaheimo (fi+en) |
| Fri 14–16 | From Sep 8th, 2023 | Maari-A | Kaarlo Kauriinvaha (fi+en) |
| Fri 16–18 | From Sep 8th, 2023 | Maari-A | Hannes Fant (sv+en) |

Online Labs on Zoom

Some of the labs will be online as [Zoom](#) video calls where students can discuss their program individually with a teaching assistant. We'll use A+'s Lab Queue feature to allocate turns to each student (or pair of students).

If you are unfamiliar with Zoom, please try it out well in advance before joining one of the online labs.

Setting up Zoom

Install Zoom on your computer as per Aalto's [Zoom Quick Guide](#).

Zoom may be initially configured to mute any teaching assistants that enter your Zoom meetings. Please ensure that this is not the case:

1.

Go to [aalto.zoom.us](#) and log in with your Aalto account.

2.

In the left-hand menu, choose **Settings**.

3.

Scroll down until you find **Mute participants upon entry**. Make sure that the setting is not enabled.

Test your video and audio in advance to make sure they're working in Zoom.

Joining an online lab

You don't have to (and can't) sign up in advance. When you want to talk to a teaching assistant, do the following.

Before you join the queue, start a Zoom meeting:

1.

Open Zoom and select **New Meeting**.

2.

Select **Join with Computer Audio**. Your meeting is now active but with only you as a participant. Others can join if they have an invite link, more on which below.

With the Zoom meeting running, enter the Lab Queue:

1.

Make sure that the program, ebook page, or other material that you wish to discuss is ready for viewing on your computer.

2.

Here in A+, select Lab Queue in the menu.

3.

The Lab Queue prompts you for a video link. Put in the invite link from Zoom. You can copy this link to your clipboard by selecting, in Zoom, **Participants → Invite → Copy invite link**.

- If you're working together with a pair, make sure to share the link with them, too, so that you're both present when the assistant joins the meeting.

4.

In the drop-down menu, select which language you'd prefer to be advised in.

5.

Confirm the selections, and you're in the queue. An assistant will join your Zoom meeting sooner or later, depending on the length of the queue.

Especially when the queue is long, the assistant cannot spend long in one meeting. For that reason, too, please be prepared when it's your turn!

Screen-sharing and mics on Zoom

In order to help you, the assistant will typically need to see the program that you're working on. You can share your computer's screen with the assistant by selecting, at Zoom's bottom edge, **Share → Screen** and confirming with **Share**.

In Zoom's bottom-left corner, there's a little microphone symbol. Check to see that your microphone isn't muted; or if it is, click the symbol or press **Alt** **⇧** **A**. If you can't hear the assistant, make sure they aren't muted by checking **Participants** at Zoom's bottom edge. When you mouse over the assistant's name in that list, you'll see a **Mute/Unmute** button. While resolving audio trouble, you can resort to Zoom's textual **Chat**, too.

OPTIONAL CONTENT

Zoom in the browser

Instead of the separate Zoom app, you can use Zoom in your web browser. If you do, here's how to launch it:

1.

Go to [aalto.zoom.us](#).
2.

Press **Host**.
3.

In the dialog that pops up, press **Start from your browser**.

4.

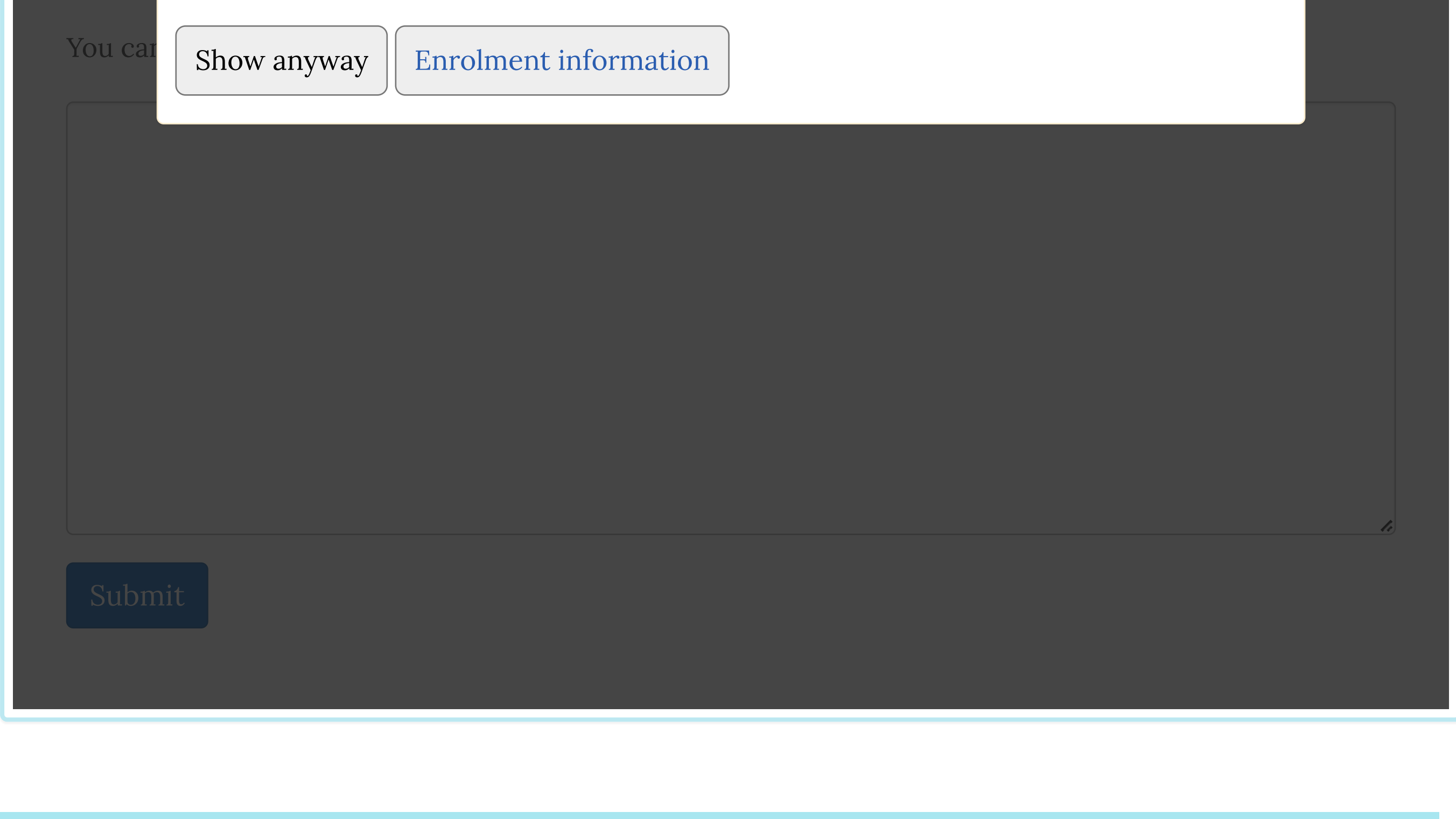
Select **Join Audio by Computer**.

5.

A Zoom meeting starts. You can now copy the invitation link to the clipboard by selecting **Manage Participants → Invite → Copy URL**.

If you use Zoom in the browser, you'll also need to adjust your browser settings to let Zoom access your microphone and camera.

Feedback



Credits

Thousands of students have given feedback and so contributed to this ebook's design. Thank you!

The ebook's chapters, programming assignments, and weekly bulletins have been written in Finnish and translated into English by [Juha Sorva](#).

The appendices ([glossary](#), [Scala reference](#), [FAQ](#), etc.) are by Juha Sorva unless otherwise specified on the page.

The automatic assessment of the assignments has been developed by: (in alphabetical order) Riku Autio, Nikolas Drosdek, Kaisa Ek, Joonatan Honkamaa, Antti Immonen, Jaakko Kantojärvi, Niklas Kröger, Kalle Laitinen, Teemu Lehtinen, Mikael Lenander, Ilona Ma, Jaakko Nakaza, Stradosky Otewa, Timi Seppälä, Teemu Sirkkiä, Anna Valdeoriola Cardó, and Aleksi Vartiainen.

The illustrations at the top of each chapter, and the similar drawings elsewhere in the ebook, are the work of Christina Lassheikki.

The animations that detail the execution Scala programs have been designed by Juha Sorva and Teemu Sirkkiä. Teemu Sirkkiä and Riku Autio did the technical implementation, relying on Teemu's [Jsvce](#) and [Kelmu](#) toolkits.

The other diagrams and interactive presentations in the ebook are by Juha Sorva.

The [O1Library](#) software has been developed by Aleksi Lukkariinen and Juha Sorva. Several of its key components are built upon Aleksi's [SMCL](#) library.

The pedagogy of using [O1Library](#) for simple graphical programming (such as `Pic`) is inspired by the textbooks *How to Design Programs* by Flatt, Felleisen, Findler, and Krishnamurthi and *Picturing Programs* by Stephen Bloch.

The course platform A+ was originally created at Aalto's [LeTech](#) research group as a student project. The open-source [project](#) is now shepherded by the Computer Science department's [edu-tech team](#) and hosted by the department's [IT services](#). Markku Riekkinen is the current lead developer; [dozens of Aalto students and others](#) have also contributed.

The A+ [Courses](#) plugin, which supports A+ and O1 in IntelliJ IDEA, is another open-source [project](#). It has been designed and implemented by [various students](#) in collaboration with O1's teachers.

For O1's current teaching staff, please see Chapter 1.1.

Additional credits for this page

Niklas Kröger wrote the instructions for Zoom labs, drawing on similar guides by Mikko Kivelä and Kerttu Pollari-Malmi; Juha Sorva translated the instructions to English.