

Discrete Event Systems

Exercise session #1



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Every week, we will post new exercises on the website

Exercise Proceedings

At the beginning of every lecture week, we will publish a new exercise sheet [here](#). This exercise sheet is intended to be solved during the exercise session on Thursday where two tutors will be available to assist you and to answer potential questions. *The exercises often require information from the lecture notes, so please make sure that you have them available in some way.*

You can hand in your solutions for correction after the exercise session on a voluntary basis. But this is not mandatory or required to be admitted to the exam.

Old Exams

If you would like some more exercises, you can also have a look at older exams (some with solutions): [HS 2018](#), [HS 2017](#), [HS 2016](#), [HS 2015](#), [HS 2014](#), [HS 2012](#), [HS 2011](#), [HS 2010](#), [HS 2009](#), [HS 2008](#) or [HS 2007](#).

Please keep in mind that the content of the lecture has been updated a few times in recent years! Thus, some of the material from the old exams might no longer be covered in the current lecture and additional material has been added.

Lecture Material

Chapter Title	Lecturer	Lecture Notes	Exercises	Responsible Assistant	Additional Material
Chapter 0 Introduction 17.09.2020	Laurent Vanbever	PDF 1:1 PDF 4:1	---	---	---
Chapter 1 Automata and Languages (Part 1) 17.09.2020	Laurent Vanbever	PDF 1:1 PDF 4:1	Exercises	Thomas Holterbach Roland Schmid	

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We will make the solutions available later during the week

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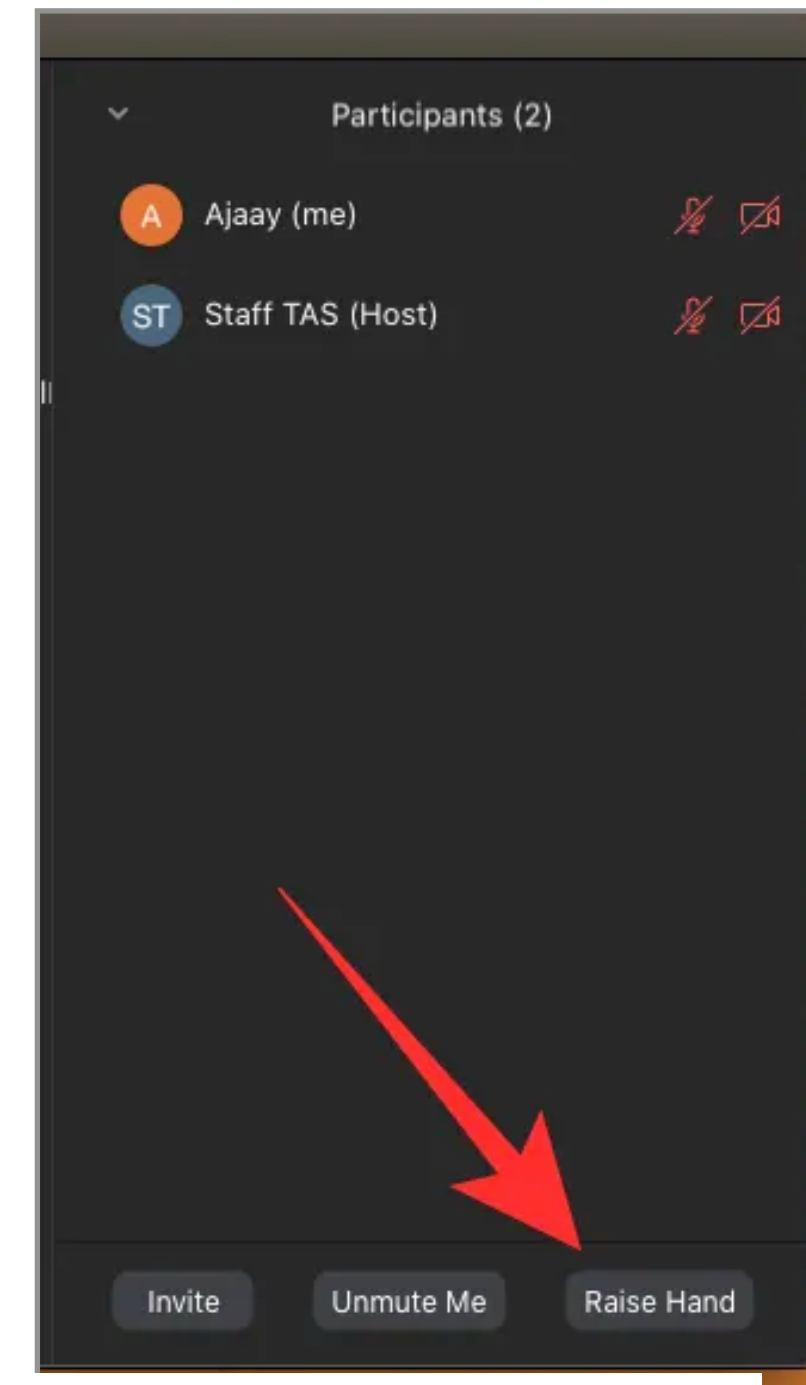
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Step #1: you try to solve the exercise

Once you have it solve, raise your virtual hand in Zoom



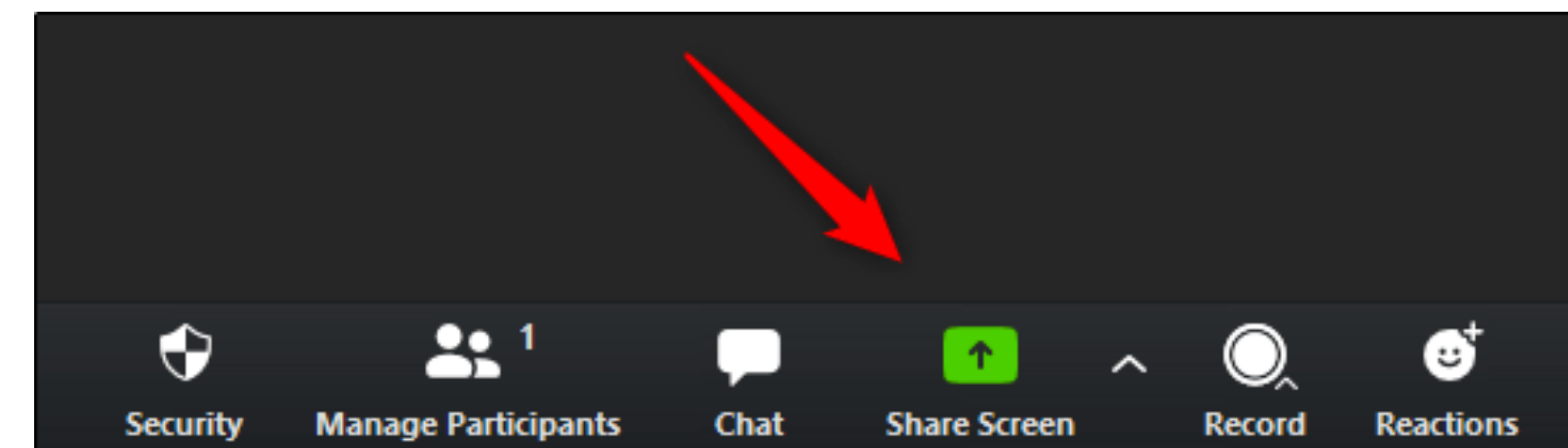
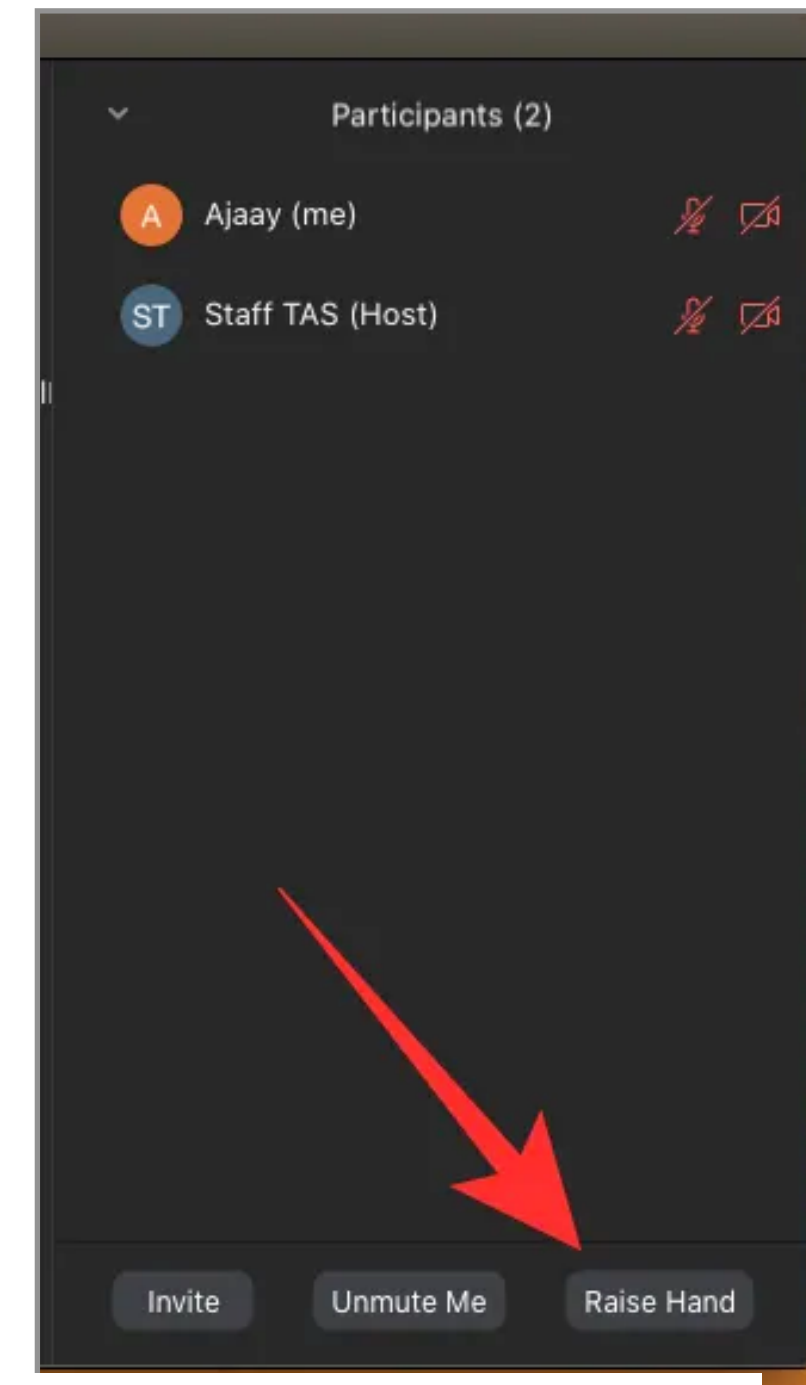
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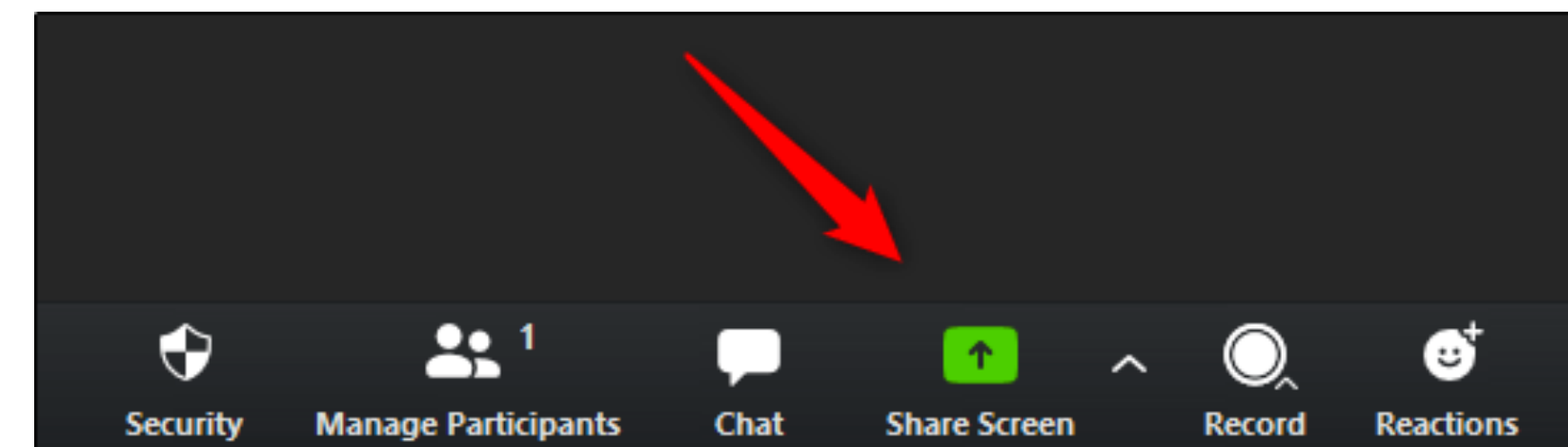
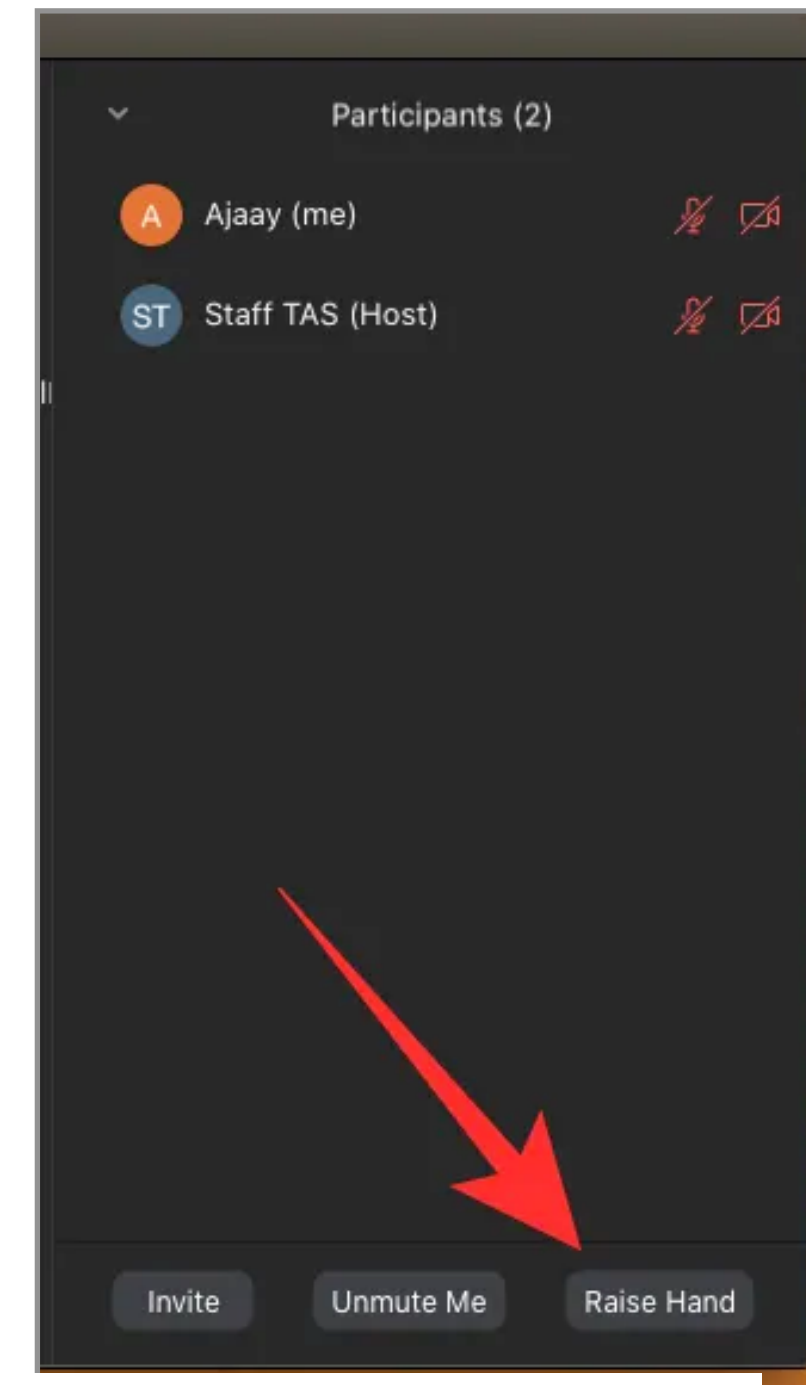
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Step #3: we will discuss and correct the proposed solution

You can ask questions using the in-meeting Zoom chat



In the coming exercise sessions, you will have to draw automata

There are several tools to do that

A good online tool in the browser: <http://madebyevan.com/fsm/>

But feel free to use any online whiteboard/drawing tool of your choice

Alternatively, you can also just draw your solution on a sheet of paper

Finite State Machine Designer



Export as: [PNG](#) | [SVG](#) | [LaTeX](#)

The big white box above is the FSM designer. Here's how to use it:

- **Add a state:** double-click on the canvas
- **Add an arrow:** shift-drag on the canvas
- **Move something:** drag it around
- **Delete something:** click it and press the delete key (not the backspace key)
- **Make accept state:** double-click on an existing state
- **Type numeric subscript:** put an underscore before the number (like "S_0")
- **Type greek letter:** put a backslash before it (like "\beta")