Introduction to Topology in and via Logic Kick-Off Meeting

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January 7, 2025

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Introduction to the project

What is topology?

• An abstract mathematical study of shape and space.

Why topology?

- Has applications in various areas of logic: model theory, set theory, domain theory, formal epistemology, etc.
- Features in MoL-courses, such as *Mathematical Structures in Logic*; *Model Theory*; and *Topology, Logic and Learning.*

What will we be doing?

- Introduce and familiarize students with the basic mathematical concepts of topology
- ... with an emphasis on how they appear in logical practice.

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Organization

Six lecture recordings (from last year) on core concepts of general topology:

- Continuity, Neighborhoods, Separation axioms, Compactness, Basic topo-constructions and Connectedness
- available now on the project website: https://chenq9901-logic.github.io/Teaching/topology_2025/

One lecture on Modal Logic of Space, given by Nick (Time TBA)

Weekly Q&A sessions, given by Qian

- On Fridays from 15:00 to 16:00 in Lab 42, Room L1.12
- Mainly provides a quick feedback for the assignments of the week

Group presentations on more advanced topics

- Given by you in teams. (So aimed at your fellow students)
- Group consultations will be in Week 3
- Tentatively, on Wednesday, Thursday and Friday of fourth week

Three Homework assignments

- Published on Dec 31, Jan 7 and Jan 14, respectively
- Deadlines are Jan 13, Jan 17 and Jan 24, respectively
- completed in teams of up to two people

Schedule



Introduction Round

- Who are you?
- What is your background?
- Why are you interested in topology?
- Anything else you want to share

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Thanks!

Introduction to Topology in and via Logic

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