

Selected Topics 2

- Select one of the extensions/alternations/restrictions of propositional logic or first-order logic. Explain why we need this new logic.
- Prove that forward chaining is complete for Horn logic, and show that it is polynomial.
- Explain why we have the phase transition phenomenon for SAT solving.
- Follow a concrete example and show a clause is learned from conflicts in SAT solving.
- Again, pick up one of the application areas mentioned in the slides. Go deeper and deeper to explain how classic logics are used in these areas.
- Pick up one of the difficulties for propositional logic in the slides. Discuss what the problem exactly is, and how to address this problem.