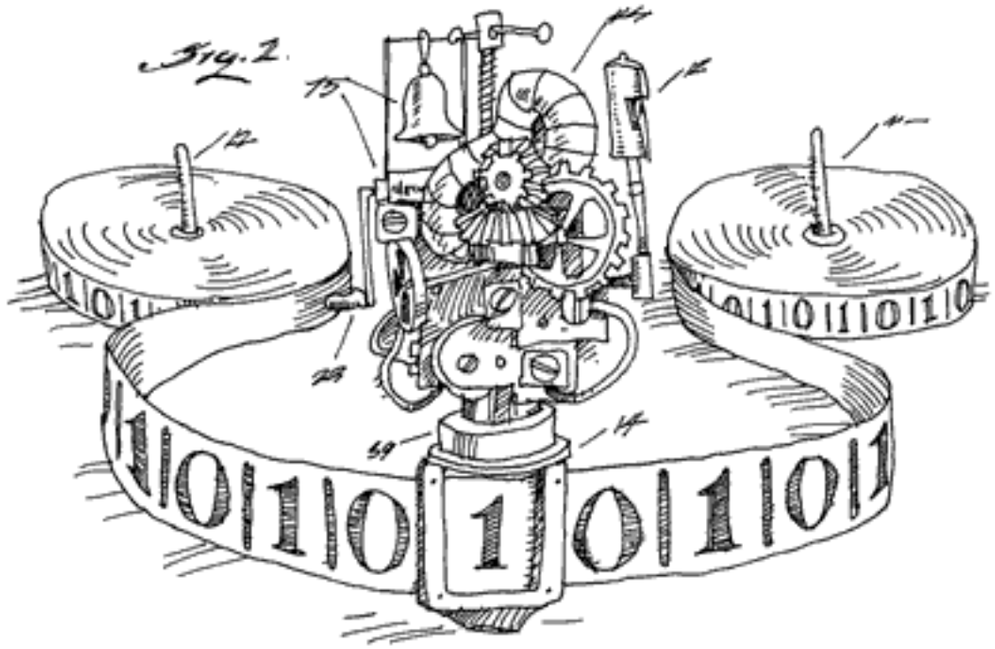
CSC4010: Introduction to Theoretical Computer Science



Tutorial

Midterm Info

- You can bring: one-sided, A4-size, handwritten study sheet
- You **should bring:** ID card, writing utensil
- No electronics allowed!
- The exam is on 2 November 2026, at 8:30 am

Tips

- Sleep on time :)
- Do practice exam, HW
- Manage your time during exam:
  - Do questions you know, come back to those that you are unsure of.
- Show your work for short answer/long answer questions. There is partial credit.
- The format of the exam is same as the practice midterm: MC-All (3 questions, 4 points each), Short answer (4 questions, 3 points each), long answer (2 questions, 6 points each)

Concepts to pay attention to

- Proving uncountability
- Showing undecidability: reduction or Rice's Theorem (make sure you know how to apply Rice's theorem)
- Showing recognizability: mapping reduction
- Designing a recognizer for a (possibly) undecidable language using dovetailing
- Closure properties of (un)recognizable/(un)decidable languages
- Asymptotic notation
- Time hierarchy
- Definition of NP: soundness, completeness, size of certificate, runtime of verifier.