Teoria da Computação
2018/2

Álvaro Moreira

afmoreira@inf.ufrgs.br

Instituto de Informática
Universidade Federal do Rio Grande do Sul
Porto Alegre, Brasil
http://www.inf.ufrgs.br
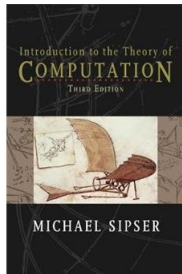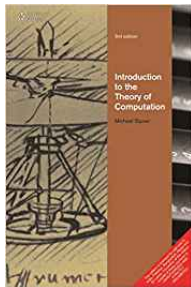
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References and Schedule

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Michael Sipser's book

Introduction to the Theory of Computation.
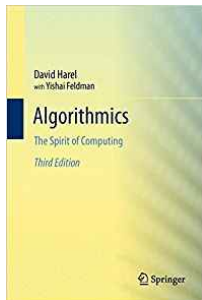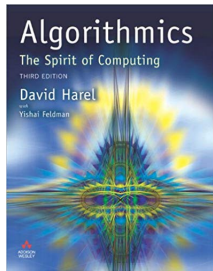*Michael Sipser. 3rd edition, 2013, Cengage.*

- Part two - Computability Theory
  - Ch. 3 - The Church-Turing Thesis
  - Ch. 4 - Decidability
  - Ch. 5 - Reducibility
- Part three - Complexity Theory
  - Ch. 7 - Time Complexity
  - Ch. 8 - Space Complexity
  - Ch. 9 - Intractability

David Harel's book - complementary reading

Algorithmics - The Spirit of Computing. David Harel (with Yishai Feldman), 3rd edition. Addison Wesley,

- Ch. 6 - The Efficiency of Algorithms
- Ch. 7 - Inefficiency and Intractability
- Ch. 8 - Noncomputability and undecidability
- Ch. 9 - Algorithmic Universality and its robustness

Schedule for 2018/2

- 01 and 02 - Introduction, general overview of topics (slides and Harel's book)
- 03 - Turing Machines (ch. 3)
- 04 - Decidability (ch. 4)
- 05 - Reducibility (ch. 5)
- 06 - Time complexity (ch. 7)
- 07 - Time Complexity
- 08 - Time Complexity
- 09 - Time Complexity
- 10 - Space Complexity (ch. 8)
- 11 - Space Complexity
- 12 - Intractability (ch. 9)
- 13 - Intractability
- 14 - Exercises
- 15 - Examination