

Problem Set 4

The problems listed here are from the 3rd edition of the Sipser book, standard version (i.e., not the problematic international version that I had). You can look at your copy and do the problems as they appear in there.

- Chapter 4: Exercises and Problems 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.10, 4.12, 4.13, 4.14, 4.16, 4.21
- Chapter 5: Exercises and Problems 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 5.9
- Prove that $E_{TM} \leq_m EQ_{TM}$
- Prove that EQ_{TM} is neither r.e. nor co-r.e.
- Prove that $Halt_{TM} \leq_m AcceptsSome_{TM}$
- Prove that $Halt_{TM} \leq_m AcceptsAll_{TM}$
- Is All_{DFA} decidable? Prove your answer.