

## CHAPTER 1

The first part of the book discusses the basic concepts of the theory of computation, including the Turing machine, the Church-Turing thesis, and the decidability of problems. It also covers the complexity theory, which studies the resources required to solve a problem, and the P vs. NP problem.

The second part of the book discusses the theory of automata, including the finite automata, the pushdown automata, and the Turing machines. It also covers the theory of regular expressions and the pumping lemma.

The third part of the book discusses the theory of computability, including the halting problem, the reduction technique, and the hierarchy of complexity classes. It also covers the theory of recursive functions and the theory of recursive sets.

The fourth part of the book discusses the theory of decidability, including the decidability of the word problem, the decidability of the isomorphism problem, and the decidability of the equivalence problem. It also covers the theory of the decidability of the word problem for groups and the theory of the decidability of the isomorphism problem for groups.

The fifth part of the book discusses the theory of the decidability of the word problem for groups and the theory of the decidability of the isomorphism problem for groups. It also covers the theory of the decidability of the equivalence problem for groups and the theory of the decidability of the word problem for groups.

The sixth part of the book discusses the theory of the decidability of the word problem for groups and the theory of the decidability of the isomorphism problem for groups. It also covers the theory of the decidability of the equivalence problem for groups and the theory of the decidability of the word problem for groups.