

Discrete mathematics - Chapter Computation

Modeling practical work

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ATTENTIONS

- Practical work duration: *13:30 - 16:00*.
- Using your own laptop to complete the code, then writing down your solution to paper with your full name, student ID and your signature. Submit your paper work to teacher before getting out of the class.

Computer Projects: write programs with these inputs and outputs.

1 PROBLEM 1

Given the state table of a deterministic finite-state automaton and a string, decide whether this string is recognized by the automaton.

2 PROBLEM 2

Given the state table of a non-deterministic finite-state automaton and a string, decide whether this string is recognized by the automaton.

3 PROBLEM 3

Given a finite-state automaton, construct a regular grammar that generates the language recognized by this automaton.

4 PROBLEM 4

Given a regular grammar, construct a finite-state automaton that recognizes the language generated by this grammar.

5 PROBLEM 5

Given a Turing machine, find the output string produced by a given input string.