

Program Homework Announcement

27 Sep. (Tue)

Preliminary Program Homework #1.1 DFA simulator

Due: 10 Oct. (Mon)

Write a DFA simulator that (1) reads a DFA as its specification, (2) simulates the given DFA for the arbitrary input strings, and (3) writes the results of the simulator as output. The input/output formats of the program are up to you.

Program Homework #1 한글 모아쓰기(Korean Character Formation) simulator

Due: 31 Oct. (Mon.)

Write a program that types sequences of Korean characters in any keypad and/or keyboard you defined and output the formed Korean character to the screen. The detailed specifications of the program including the definition of keypad or keyboard are up to you and should be clarified in your Homework.

Preliminary Program Homework #2.1 ϵ -NFA to DFA converter

Due: 14 Nov. (Mon.)

Write a ϵ -NFA to DFA converter and simulate its running using the simulator in the Program Homework #1.

Program Homework #2 Regular Expression to DFA converter

Due: 5 Dec. (Mon.)

Write a program that does followings;

- (1) Parses a regular expression over Σ using yacc or equivalents, and make an Abstract Syntax Tree (AST) of the regular expression.
- (2) Reads the AST of the regular expression and generates an equivalent ϵ -NFA.
- (3) Converts the ϵ -NFA to the equivalent DFA using the converter in Program Homework #2.1.
- (4) Minimizes the number of states of the DFA of (3).
- (5) Simulates the DFA using the simulator in the Program Homework #1.

Show that your DFA in the Program Homework #2 is correct using this program.