IMPLEMENTATION OF DETERMINISTIC FINITE AUTOMATON MODEL FOR REGULAR EXPRESSION INTERPRETATION A CASE STUDY AT SPOJ CLASSIC PROBLEM 10354

Student's Name	**: MUHAMMAD YUNUS BAHARI**
Student's ID	**: 5111100079**
Department	**: Teknik Informatika FTIF-ITS**
First Advisor	**: Arya Yudhi Wijaya, S.Kom., M.Kom.**
Second Advisor	**: Rully Soelaiman, S.Kom., M.Kom.**

Abstract

Regular expression is a pattern that often used for searching and validate a string. But the implementation of regular expression often just transformed into Nondeterministic Finite Automaton (NFA) that still has flaws. One main flaw is NFA took a long time to do a validation and string matching.

The development of validation and string matching is continuously expanding and some of discoveries are made to improve validation and string matching performance. One of them is converting NFA into Deterministic Finite Automaton (DFA) to reduce active states in NFA. In this final project conversion technique from NFA to DFA and how to implement that technique into a program will be explained.

Keywords: Regular expression, Nondeterministic Finite Automaton, Deterministic Finite Automaton, SPOJ.