Rajagiri School of Engineering and Technology (Autonomous)

Department of Information Technology

101009/IT522S Compiler Design Lab (LEX & YACC)

Lab cycle

1. Design and implement a lexical analyzer for given language using C and the lexical analyzer should ignore redundant spaces, tabs and new lines.
2. Implementation of Lexical Analyzer using Lex Tool
3. Implementation of Lexical Analyzer using Lex Tool to ignore redundant spaces, tabs and new lines.
4. Generate YACC specification for a few syntactic categories.

    a) Program to recognize a valid arithmetic expression that uses operator +, - , * and /.

    b) Program to recognize a valid variable which starts with a letter followed by any number of letters or digits.

    c) Implementation of Calculator using LEX and YACC

5. Write a program to convert NFA to DFA
6. Write a program to find Simulate First and Follow of any given grammar.
7. Design and implement a recursive descent parser for a given grammar.
8. Construct a Shift Reduce Parser for a given language.
9. Implement Intermediate code generation for simple expressions
10. Write a C program to recognize strings under 'a', 'a*b+', 'abb'.
11. Write a C program to simulate lexical analyzer for validating operators
12. Convert the BNF rules into YACC form and write code to generate abstract syntax tree
13. Implement the back end of the compiler which takes the three address code and produces the 8086 assembly language instructions. The target assembly instructions can be simple move, add, sub, jump etc.
14. Write a program to minimize any given DFA.
15. Write a program to find ε - closure of all states of any given NFA with ε transition

Prepared by

Mr. Tinku Soman Jacob (Lab-in charge)

Dr. Nikhila T Bhuvan

Dr. Vidya P M

Mr. Ajith Jacob

Approved by

Dr. Neeba E A (HOD)

20/9/23