Compiler Construction

Innovative Assignment
2CS701

Group members

1. Rudransh Vyas 19BCE228
2. Darsh Samariya 19BCE236

DESCRIPTION

This project being a Mini Compiler for the python programming language, focuses on generating an intermediate code for the language for specific constructs.
It works for constructs such as conditional statements and loops.
The main functionality of the project is to generate an optimized intermediate code for the given python source code.

This is done using the following steps:

i) Generate symbol table after performing expression evaluation

ii) Generate Abstract Syntax Tree for the code

iii) Generate 3 address code followed by corresponding quadruples

iv) Perform Code Optimization

The main tools used in the project include LEX which identifies predefined patterns and generates tokens for the patterns matched and YACC which parses the input for semantic meaning and generates an abstract syntax tree and intermediate code for the source code.

SIGNIFICANCE

Python is used to optimize the intermediate code generated by the parser. Here the design strategies and implementation of the different stages involved in building a mini compiler will be performed and we will build a working compiler that generates an intermediate code, given a Python code as input.