Compiler Construction CSF363
Lexical Analysis and Syntax Analysis

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1 Introduction and Aim

This project has been made for the completion of the project of CSF363 course - Compiler Construction. The language is a specially designed language (ERPLAG) whose specifications were provided beforehand and are mentioned in separate document.

2 Status of Code and Features

- Lexical Analysis and Error Reporting: **Complete**
- Syntax Analysis and Error Reporting: **Complete**
- Syntax Parse Tree: **Complete**
- First and Follow Automation: **Complete**
- Parse Table Automation: **Complete**

3 Additional Notes and Highlights

- All the Errors are reported with line numbers. Some relevant suggestions (lexical status/expectation and syntax expectation) are also provided in the error messages. The error messages are printed all together at once, keeping in with the spirit of compilation.
- Highlights we would like to point out: The code is such that it automates the process of reading the grammar. Hence new rules can be added even with new non terminals which are dynamically added into the parsing structures.
- Hash table ADT has been used to implement the keyword finding and also the numeric enumeration of all the non terminals and terminals.
- Error Recovery has been implemented using panic mode recovery using follow set for the non terminals. The code is able to catch all errors on test cases (supplied as well as self derived).