**LL(1) Parser**

A Mini Project Report Submitted by

Rahul D Shetty 4NM16CS111

Saurabh D Rao 4NM16CS132

UNDER THE GUIDANCE OF

Mrs. ANISHA P RODRIGUE

Assistant Professor Gd. II

Department of Computer Science and Engineering

in partial fulfilment of the requirements for the award of the Degree of

Bachelor of Engineering in Computer Science & Engineering

from

Visvesvaraya Technological University, Belgaum



 DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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: 08258 - 281039 – 281263, Fax: 08258 – 281265

**Department of Computer Science and Engineering**

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

CERTIFICATE

**LL(1) Parser**

is bona fide work carried out by

Rahul D Shetty 4NM16CS111

Saurabh D Rao 4NM16CS132



in partial fulfilment of the requirements for the award of

Bachelor of Engineering Degree in Computer Science and Engineering

prescribed by Visvesvaraya Technological University,

Belgaum during the year 2018-2019.

It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report.

The Mini project report has been approved as it satisfies the academic requirements in respect of the project work prescribed for the Bachelor of Engineering Degree.

Signature of Guide Signature of HOD

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Rahul D Shetty 4NM16CS111

Saurabh D Rao 4NM16CS132

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# **ABSTRACT**

The purpose of this project is to design lexical analyser and syntax analyser for a LL(1) Grammar. The two stages are the integral part of Analysis phase of a compilation process which involves identifying the tokens of the given program and using these tokens to identify if each of them are syntactically proper based on given production rules. The main program takes in two inputs namely the source program which we need to process and the grammar rules to parse the program. The objective of the project is to generate the parsed sequence which can be further given for the later stages of the compiler.

The grammar that is defined for parsing, should be LL(1) that is to say it should not contain any left recursion and it should be left factored. By using the LL(1) productions, we generate the parse table which has entries for each terminals and non-terminals identified in them. Before the generation of parse table, we identified the FIRST and FOLLOW’s of each terminals using a recursive method. The final stage is the parsing which is done by using the standard LL(1) parsing steps. If the given source code contains some syntax errors, the appropriate line number would be shown. The error handling part of the parser is implemented using Panic Mode recovery.

The outcome of the project is to identify the parsing actions taken by the grammar for proper and invalid source code.

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**CHAPTER 1**

## **INTRODUCTION**

**1.1 OVERVIEW**

Cheating in Visual Cryptography (VC) is well studied and understood through secret-sharing schemes [1], [2]. VC is a variant of secret sharing. Most cheating attacks in VC are known to be plaintext attacks where the cheaters know the secret image and are able to infer the blocks of victim’s transparency based on the base matrices. It is noticed that cheating is possible in (k, n) and (n, n) VC where k is smaller than n.