



Sanjivani Rural Educational Society's
SANJIVANI COLLEGE OF
ENGINEERING
(An Autonomous Institution)
Kopargaon - 423 603, Maharashtra.

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Year – TY

Assignment No:4

Revision : 00

Department : Department of Computer Engineering

Title: Write a program using YACC specifications to implement syntax analysis phase of compiler to recognize simple and compound sentences given in input file.

PROBLEM DEFINITION:

Write a program using YACC specifications to implement syntax analysis phase of compiler to recognize simple and compound sentences given in input file.

OBJECTIVES:

1. To understand syntax analyzer
2. To use the lex and yacc tool

INPUT:

Simple or Compound statement

OUTPUT:

To display type of statement

THEORY:

Grammar for Simple and Compound Statement

```
sentence: simple_sentence { printf("Parsed a simple sentence.\n"); }  
        | compound_sentence { printf("Parsed a compound sentence.\n"); }  
        ;
```

```
simple_sentence: subject verb object  
             | subject verb object prep_phrase  
             ;
```

```
compound_sentence: simple_sentence CONJUNCTION simple_sentence
```

```

    | compound_sentence CONJUNCTION simple_sentence
    ;

subject:  NOUN
        | PRONOUN
        | ADJECTIVE subject
        ;

verb:     VERB
        | ADVERB VERB
        | verb VERB
        ;

object:   NOUN
        | ADJECTIVE object
        ;

prep_phrase:  PREPOSITION NOUN
        ;

```

Executing Lex and Yacc

```

lex example.l
yacc -d example.y
gcc -o example lex.yy.c y.tab.c
./example

```

ALGORITHM:

1. Write the lex program which recognise necessary tokens extension
2. Write yacc program with grammar for declarative statement
2. compile lex and yacc program to generate lex.yy.c and y.tab.c programm
3. Compile c program to generate the object program a.out
4. a.out is the generated syntax analyzer
5. Provide the input simple or Compund statement to syntax analyzer to generate the output

OBSERVATION:

It is observed that above parser parse the simple or compund statement statements

CONCLUSION:

LEX and YACC tool is used to parse the simple or Compund statement statement