

Compilers Laboratory

B. Tech. 6th Semester

Batch: 2017



Department: Computer Science and Engineering

Faculty of Engineering & Technology

Ramaiah University of Applied Sciences

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Private University Established in Karnataka State by Act No. 15 of 2013

Faculty	Engineering & Technology
Programme	B. Tech. in Computer Science and Engineering
Course	Compilers Laboratory
Year/Semester	2017/6 th Semester
Course Code	CSC312A

List of Experiments

LEX PROGRAMS

1. Program to count the number of vowels and consonants in a given string.
2. Program to find the longest word in a given string.
3. Program to count no of:
 - a. +positive and –negative integers
 - b. +positive and –negative fractions
4. Program to count the number of characters, words, spaces, end of lines in a given input file.
5. Program to count the no of ‘scanf’ and ‘printf’ statements in a C program. Replace them with ‘readf’ and ‘writef’ statements respectively.
6. Program to perform addition, subtraction, multiplication, division and power. Note: Without Precedence.

YACC & LEX PROGRAMS

7. Program to recognize a valid variable, which starts with a letter, followed by any number of letters or digits.
8. Program to test the syntax of a simple expression and evaluate an arithmetic expression involving operating +, -, * and /
9. Program to recognize strings ‘aaab’, ‘abbb’, ‘ab’ and ‘a’ using grammar ($a^n b^m$, $n \geq 0$, $m \geq 0$)

Name: _____

Roll Number: _____

Laboratory 1

Title of the Laboratory Exercise: Program to count the number of vowels and consonants in a given string

1. Introduction and Purpose of Experiment

Students learn to use Lex program to find out vowels and consonants in a given string

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2. Aim and Objectives

Aim

- To write a program to count the number of vowels and consonants in a given string

Objectives

At the end of this lab, the student will be able to

- Define regular expression for vowels and consonants
- Count the number of vowels and consonants

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

Name: _____

Roll Number: _____

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 2

Title of the Laboratory Exercise: Program to find the longest word in a given string.

1. Introduction and Purpose of Experiment

Students learn to use Lex program to find out the longest word in a given string.

2. Aim and Objectives

Aim

- To write a program to find the longest word in a given string

Objectives

At the end of this lab, the student will be able to

- Define regular expression for words
- Find the longest word in a given string

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

a. Limitations of Experiments

Name: _____

Roll Number: _____

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 3

1. Title of the Laboratory Exercise: Program to count no of:
 - a. +positive and –negative integers
 - b. +positive and –negative fractions

2. Introduction and Purpose of Experiment

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2. Aim and Objectives

Aim

Objectives

At the end of this lab, the student will be able to

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

Name: _____

Roll Number: _____

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 4

Title of the Laboratory Exercise: Program to count the number of characters, words, spaces, end of lines in a given input file.

1. Introduction and Purpose of Experiment

2. Aim and Objectives

Aim

- To write a program to

At the end of this lab, the student will be able to

- Define
-

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

a. Limitations of Experiments

Name: _____

Roll Number: _____

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 5

Title of the Laboratory Exercise: Program to count the no of 'scanf' and 'printf' statements in a C program. Replace them with 'readf' and 'writef' statements respectively.

1. Introduction and Purpose of Experiment

Students learn

2. Aim and Objectives

Aim

- To write a program to

Objectives

At the end of this lab, the student will be able to

- Define

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

a. Limitations of Experiments

Name: _____

Roll Number: _____

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 6

Title of the Laboratory Exercise: Program to perform addition, subtraction, multiplication, division and power. Note: Without Precedence.

1. Introduction and Purpose of Experiment

Students learn to

2. Aim and Objectives

Aim

- To write a program to

Objectives

At the end of this lab, the student will be able to

- Define

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

Name: _____

Roll Number: _____

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 7

Title of the Laboratory Exercise: Program to recognize a valid variable, which starts with a letter, followed by any number of letters or digits.

1. Introduction and Purpose of Experiment

Students learn to

2. Aim and Objectives

Aim

- To write a program

Objectives

At the end of this lab, the student will be able to

- Define

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Write yacc program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

Name: _____

Roll Number: _____

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 8

Title of the Laboratory Exercise: Program to test the syntax of a simple expression and evaluate an arithmetic expression involving operating +, -, * and /

1. Introduction and Purpose of Experiment

Students learn to

2. Aim and Objectives

Aim

- To write a program to

Objectives

At the end of this lab, the student will be able to

- Define

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Write yacc program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

Name: _____

Roll Number: _____

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____

Laboratory 9

Title of the Laboratory Exercise: Program Program to recognize strings 'aaab', 'abbb', 'ab' and 'a' using grammar ($a^n b^n, n \geq 0$)

1. Introduction and Purpose of Experiment

Students learn

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2. Aim and Objectives

Aim

- To write

Objectives

At the end of this lab, the student will be able to

- Define

3. Experimental Procedure

Students are required to carry out the following steps:

- Algorithm
- Write the Lex program
- Write yacc program
- Compile and execute the program (steps)
- Complete the documentation for the given problem

4. Presentation of Results

5. Analysis and Discussions

6. Conclusions

7. Comments

Name: _____

Roll Number: _____

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

Component	Max Marks	Marks Obtained
Viva	6	
Results	7	
Documentation	7	
Total	20	

Name: _____

Roll Number: _____