

COMPILER DESIGN LAB

(PCS-601)

NOTE: Design LEX/YACC Code for following Set of Program. (Study of LEX/YACC with file-handling is required)

LEX code using Regular Grammar (without file-handling):

1. Design a LEX Code to count the number of lines, space, tab-meta character and rest of characters in a given Input pattern.
2. Design a LEX Code to identify and print valid Identifier of C/C++ in given Input pattern.
3. Design a LEX Code to identify and print integer and float value in given Input pattern.
4. Design a LEX Code for Tokenizing (Identify and print OPERATORS, SEPERATORS, KEYWORDS, IDENTIFERS) the following C-fragment:

```
int p=1,d=0,r=4;
float m=0.0, n=200.0;
while (p <= 3)
{ if(d==0)
  { m= m+n*r+4.5; d++; }
  else
  { r++; m=m+r+1000.0; }
  p++; }
```

LEX code using Regular Grammar (with file-handling):

5. Design a LEX Code to count and print the number of total characters, words, white spaces in given 'Input.txt' file.
6. Design a LEX Code to replace white spaces of 'Input.txt' file by a single blank character into 'Output.txt' file.
7. Design a LEX Code to remove the comments from any C-Program given at run-time and store into 'out.c' file.
8. Design a LEX Code to extract all html tags in the given HTML file at run time and store into Text file given at run time.

LEX code using DFA:

9. Design a DFA in LEX Code which accepts string containing even number of 'a' and even number of 'b' over input alphabet {a, b}.
10. Design a DFA in LEX Code which accepts string containing third last element 'a' over input alphabet {a, b}.
11. Design a DFA in LEX Code to Identify and print Integer & Float Constants and Identifier.

YACC/LEX code:

12. Design YACC/LEX code to recognize valid arithmetic expression with operators +, -, * and /.
13. Design YACC/LEX code to evaluate arithmetic expression involving operators +, -, * and / without operator precedence grammar & with operator precedence grammar.
14. Design YACC/LEX code that translates infix expression to postfix expression.
15. Design Desk Calculator using YACC/LEX code.