K. S. SCHOOL OF ENGINEERING AND MANAGEMENT

Department of Computer Science and Engineering

System Software And Operating System Laboratory

LIST OF EXPERIMENTS

1.a) Write a LEX program to recognize valid ***arithmetic expression.*** Identifiers in the expression could be only integers and operators could be + and *. Count the identifiers & operators present and print them separately.
b) Write YACC program to evaluate ***arithmetic expression*** involving operators: +, -, *, and /

2. Develop, Implement and Execute a program using YACC tool to recognize all strings ending with ***b*** preceded by ***na's*** using the grammar $a_n b$ (note: input ***n*** value)

3. Design, develop and implement YACC/C program to construct ***Predictive / LL(1) Parsing Table*** for the grammar rules: $A \rightarrow aBa$, $B \rightarrow bB \mid \varepsilon$. Use this table to parse the sentence: ***abba$.***

4. Design, develop and implement YACC/C program to demonstrate ***Shift Reduce Parsing*** technique for the grammar rules: $E \rightarrow E+T \mid T$, $T \rightarrow T*F \mid F$, $F \rightarrow (E) \mid id$ and parse the sentence: $id + id * id$.

5. Design, develop and implement a C/Java program to generate the machine code using ***Triples*** for the statement $A = -B * (C + D)$ whose intermediate code in three-address form:
$T1 = -B$ $T2 = C + D$ $T3 = T1 + T2$ $A = T3$

6. a) Write a LEX program to eliminate ***comment lines*** in a ***C*** program and copy the resulting program into a separate file.
b) Write YACC program to recognize valid ***identifier, operators and keywords*** in the given text (*C program*) file.

7. Design, develop and implement a C/C++/Java program to simulate the working of Shortest remaining time and Round Robin (RR) scheduling algorithms. Experiment with different quantum sizes for RR algorithm.

8. Design, develop and implement a C/C++/Java program to implement Banker's algorithm. Assume suitable input required to demonstrate the results.

9. Design, develop and implement a C/C++/Java program to implement page replacement algorithms LRU and FIFO. Assume suitable input required to demonstrate the results.

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