ESE Examination

CS 321: Compilers Lab

Time- 2 Hours

 # Problem 1: Write a grammar to show shift/reduce conflicts in YACC. Remove the conflicts by appropriate means. Submit the necessary files (grammar, LEX/YACC, input, output showing conflicts, and output after resolving conflicts). **10**

 # Problem 2: Write a Lex/and or Yacc program that accepts all the string over the input alphabet {a,b,c,d} in the Language: L = {am bn cn dm} | n, m >= 0}. Submit the necessary files (grammar, LEX/YACC, input, output)

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 # Problem 3: Write a LEX/Yacc program to check whether a SQL select statement contains the correct arithmetic expression or not. Submit the necessary files (grammar, LEX/YACC, input, output)

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Note: Select statement consists of one or more arithmetic expressions. But the presence of any meta-character (' or -- or ; or ' or any combination) led to an incorrect select statement.

For example,

Case 1:- *INPUT:* SELECT id FROM emp WHERE login = ' x+3x'-- '
In this case the SELECT statement contains meta-character (' --) within string x+3x'--
*OUTPUT***:** SQL select statement is incorrect or consists by incorrect arithmetic expression.

 Case 2:-*INPUT*: SELECT sal from emp WHERE sal >= ' sal*(+sal 0.2) '
OUTPUT: SQL select statement is incorrect or consists by incorrect arithmetic expression.

Note*:* In this case, arithmetic expression sal*(+sal 0.2) is not the correct expression.

Case 3:- *INPUT*: SELECT * FROM emp WHERE sal >= ' (sal + 100) * 0.5 ' AND age >= ' age+ 1 '
OUTPUT: SQL select statement consist by correct arithmetic expression .

Hint:- Write the grammar of the correct SQL select statement only.