Military Institute of Science and Technology
Computer Science and Engineering Department
CSE-303 (Compiler), CSE-17
Assignment-1

Question: Given the grammar below, design a compiler up to the 'Syntax Analyzer' stage by answering the following questions:

Grammar:	Input:
E → E + T | T T → T * F | F F → (E) | digit	5 + 8 * 6 + (9 + 3) * 4 Output: 101

1. Write the Lex program for the given grammar
2. Write the possible output (Tokenized Format) of your written program for the input given above.
3. Identify the FIRST and FOLLOW of all the non-terminals.
4. Analyzing the grammar and the FIRST & FOLLOW sets, design the Parsing Table.
5. Using the Parsing Table, draw the Parser Tree for the given input.
6. Show the Non-recursive Parsing Table (matched, stack, input, action) for the given grammar and input.
7. Write the code of Parser Generator for the given grammar.
8. Show the calculation of output for the given input using the parsing tree [Hints: show how the value is passed from one step to another and also write which action is executed in each phase of the tree]