

Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

Examination: **Lab Final**

Session: **FALL 2020**

Year/Semester: 4/1

Course No: **CSE4130**

Course Title: Formal Languages and Compilers Lab

Mark: 20

Time: 35 Minutes.

SET: 1

Answer the following two questions.

Q1. Write a program to read a C program as input and find out how many Relational [10]

Operators are there in the program per line. You must display the output as “Line no.

XX: No. of Relational Operators” on the console. *Note that:*

- Only the operators residing within expressions should be counted
- The lexemes of the program have to be sent from the main function to a separate user-defined function where the decision will be made whether that lexeme is a relational operator or not.
- The main function will display the output.

Sample Input	Sample Output
<pre>#include<stdio.h> void main(void){ int a, b; if(a<=5) printf(“Hi”); // <= Rel-op else if (b<5 && a==4) printf(“!= is rel-op.”) }</pre>	<pre>Line No. 4: 1 Line No. 5: 2</pre>

- Q2.** Write a C program that will scan a given C program (possibly with some syntax errors) and find out the misplaced parenthesis or curly braces along with line numbers, if there is any. **[10]**

Sample Input	Sample Output
<pre>float x1 = 3.125;;; // Definition of function f1) double f1(float a, int x)) { if(x < x1) double z;; else z = 0.01;} else return return z; }</pre>	<pre>Misplaced Parenthesis at Line No: 3. Misplaced Curly Brace at Line No: 9.</pre>