# North East University Bangladesh

Department of Computer Science and Engineering
Course: CSE-422 (Compiler Construction Lab)

Compiler Construction Lab Tasks (April, 2017)

## Set #0 (25%)

1. Install Flex and Bison
2. Run a Flex program that can detect patterns like digit, number, string, identifiers etc.
3. Run a Flex program that can detect patterns like float/double, if/else/switch, valid e-mail address etc.
4. Write and run some flex program that implements some regular expressions described in Dragonbook.
5. Create a parser that will parse the following grammar
   E-→ E + E | E – E| E * E| E / E| INTEGER.
6. Create a parser that will parse following grammar
   E-→ E + E | E – E| E * E| E / E| DOUBLE.

## Set #1 (15%)

1. Run a C program in CMD.
2. Run a Java Program in CMD.
3. Write a program to input and print a String.
4. Write a program to show different way to Input and Print a String in Java.
5. Write a program to concatenate two Strings.
6. Use the following java methods-
   a. Format()
   b. Trim()
   c. concat()
   d. replace()
   e. replaceAll()
   f. toString()
   g. substring()
   h. contains()
   i. split() with multiple delimiter
7. Write a program and show the use of several methods of StringBuilder class.
8. Write a program to illustrate the methods of Java String Tokenizer class.

**Set #2 (15%)**

1. Write a program to take a String as input from a text file.
2. Write a program to write a String in a text file.
3. Write a program that will take a string as input and returns the most frequent words in the String.
4. Write a program that will take a string as input and returns how many words in the String with frequency.
5. Write a program that will take a string as input and returns total number of unique words in the String with frequency.

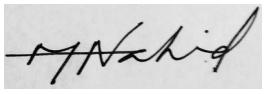
**Set #3 (20%)**

1. Write a program to Eliminate Left Recursion from a grammar.
2. Write a program to left Factor a Grammar.
3. Find FIRST from a grammar.
4. Find FOLLOW from a grammar.

**Set #4 (25%)**

1. Write a program to create a parse table
2. Write a program for Predictive Parser
3. Write a program that will store 3 address codes in Quadruple and Triple
4. Write a program to find the Basic Blocks
5. Write a program to generate machine Code for Simple operator (+,-,*,/)

Submit before Semester Final Examination (Spring 2017).



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