**Compiler Laboratory**

* **Assignment 02:**

**You will be designing a language and building a compiler for it in this course. This task will be broken down into a series of assignments.**

The language you design must have the following features

* + Global declarations for both functions and variables
  + Usual mathematical expressions (bracketing, +, -, \*, /, unary negation)
  + Have Integers and Boolean types
  + Looping options
  + Conditionals
  + Should allow all kinds of nesting.
  + Type checking.
  + Input/Output commands
  + Recursion.
* **Part 1**

Write a C program to do the following:   
Input: A regular expression on the alphabet {a,b...}.   
Output: The minimal DFA for the regular expression   
  
In addition, you must write a program to simulate the DFA on any possible input.

* **Part 2**

Write the grammar(tentative) for the language you've designed. The language you've designed should be presented at a .txt or .pdf file. Identify the tokens. Write a lex code which will produce the tokens for your language.