CS 4031 Compiler Construction

Assignment 3

Section BCS-6A and BCS-8A

NOTE: Don't resort to cheating or any form of plagiarism. Submit the assignment on time otherwise there will be -5 penalty for every hour.

To Submit: A file named group #.txt containing your grammar followed by regular expressions of tokens. Only 1 student in a group has to submit the assignment. **No need to zip anything.**

Penalties:

- -5 marks for not following submission instructions
- -5 for not handling minor construct otherwise -10
- Late penalty is -5 every hour (this will be followed strictly from now onwards)

Instructions:

- Grammar shouldn't be left recursive
- The operator precedence of *, / and % is higher than + and -. Write your grammar accordingly.
- Write generalized grammar e.g.,

    if ID ro ID:
    begin
        statements
    end

  is correct but insufficient.
  The actual grammar may look something like

    if exp ro exp:
    begin
        statements
    end

  as there can be a condition like

    if a+b = b+c:
    begin
        #do something
    end

  Note: a+b and b+c are expressions
  ro is a rule for relational operators.
- Get a deep understanding of language you are going to implement before designing grammar.

Bonus Work: (given when project is complete)

Everyone (if he/she is using the template or not) is required to download the template.zip archive from A2 and see provided code samples. There are 4 test cases provided ranging from sample_code0.mc to sample_code3.mc. There are descriptive comments on top of every file. Read them, if you are able to do what is being asked, you will be given bonus marks. Add support for respective sample code in your grammar if you want to do bonus work.

Assignment Details

Provide grammar for my_compiler language keeping the sample codes in mind. If you want to do bonus work, your grammar should be able to run that specific sample code without errors. If your grammar is able to run source_code0.mc you will be given full credit. Rest samples are for bonus work. **Read above guidelines carefully, otherwise you may lose marks.**

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