**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI**

**DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION SYSTEMS**

**Principles of Programming Languages (CS F301)**

**Group No.**

**2**

**I Semester 2020-21**

**Assignment-1 Code Submission**

**Coding Details**

**(October 29, 2020)**

1. IDs and Names of team members

ID: 2017B5A70546P Name: Manas Mishra

ID: 2017B4A70583P Name: Dhruv Patel

ID: 2017B3A70783P Name: Bhavya Gera

ID: 2017B3A70599P Name: Ayush Agrawal

1. Mention the names of the Submitted files :

1.grammar.c 6.src\_code.txt 11. Proforma.docx 16.t4.txt

2.grammar.h 7.tokenizer.c 12.makefile 17.t5.txt

3.Grammar.txt 8.tokens.h 13.t1.txt 18.t6.txt

4.keywords.h 9.colors.h 14.t2.txt

5.parser.c 10.driver.c 15.t3.txt

1. Total number of submitted files: 18 (All files should be in **ONE folder** named exactly as Group\_#, # is your group number)
2. Have you mentioned your names and IDs at the top of each file (and commented well)? (Yes/ no) Yes [Note: Files without names will not be evaluated]
3. Have you compressed the folder as specified in the submission guidelines? yes
4. Have you ensured that the folder does not have any \*.o file or any executable file? yes
5. **Grammar and token stream**

Total number of production rules: 49

Total number of non-terminals: 25

Total number of terminals: 31

Grammar.txt file created [yes/no]: yes

Nonterminal symbols enumerated [yes/no]: no

Terminal symbols enumerated [yes/no]: no

Grammar data structure populated successfully [yes/no]: yes

Token-stream created [yes/no]: yes

1. **Which functions have you implemented?**
   1. ***readGrammar ( ) : yes***
   2. ***tokeniseSourcecode ( ) : yes***
   3. ***createParseTree ( ) : yes***
   4. ***traverseParseTree ( ) : yes ( type\_check ( ) )***
   5. ***printParseTree ( ) : yes***
   6. ***printTypeExpressionTable ( ) : yes ( print\_type\_nodes ( ) )***
2. **Parse tree** 
   1. Constructed (yes/no): yes
   2. Printing as per the given format (yes/no): yes
   3. Describe the order you have adopted for printing the parse tree nodes (in maximum two lines) preorder traversal (Root node, left-most node to right-most node recursively)
3. **Type Expression Table**

[A]. Constructed (yes/no): yes

[B]. Implemented as (lookup table/ hash table): lookup table

[C]. Printing as per the given format (yes/no): yes

[C]. Describe the structure of the type expression accommodating all types (in maximum two lines)

Implemented as Symbol record

1. **Compilation Details:**
   1. Implemented in multiple files / single file: multiple files
   2. Makefile works (yes/no): yes
   3. Code Compiles (yes/ no): yes
   4. Mention the .c files that do not compile: N.A.
   5. Any specific function that does not compile: N.A.
   6. Ensured the compatibility of your code with the specified gcc version :(yes/no) yes
   7. Give below the exact commands to compile your code : make && ./parser Grammar.txt src\_code.txt
2. **Driver Details**: Does it take care of the options specified earlier(yes/no): yes
3. **Execution** 
   1. Status (describe in maximum 2 lines): 0 for Success
   2. Gives segmentation fault with any of the test cases (1-6) uploaded on the course page. If yes, specify the testcase file name: No (In our grammar we have written Boolean type with captital ‘B’ (Boolean) so the user has to take care of this in the test cases)
   3. Command line arguments used for input file (yes/no): Yes
4. Specify the language features your code is not able to handle (in maximum one line)

Printing the Depth of the parse tree not accounted while printing type errors, Array Bound checking not done

1. Are you availing the lifeline (Yes/No): No
2. Declaration: We, Manas Mishra, Dhruv Patel, Bhavya Gera and Ayush Agrawal (your names) declare that we have put our genuine efforts in creating the code and have submitted the code developed only by our group. We have not copied any piece of code from any source. If our code is found plagiarized in any form or degree, we understand that a disciplinary action as per the institute rules will be taken against us and we will accept the penalty as decided by the department of Computer Science and Information Systems, BITS, Pilani. [Write your ID and names below]

ID: 2017B5A70546P Name: Manas Mishra

ID: 2017B4A70583P Name: Dhruv Patel

ID: 2017B3A70783P Name: Bhavya Gera

ID: 2017B3A70599P Name: Ayush Agrawal

Date: 29/10/2020

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Should not exceed 3 pages.