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**American University of Sharjah**

College of Engineering

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**CMP 321: Programming Languages**

**Fall 2021**

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Dr. Michel Bernard Pasquier

Department of Computer Science and Engineering

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Brief Project Report

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### **Title: Prolog Parser**

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**Section Number: 01**

**Group Number: 03**

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**Name & ID:**

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| **Khondoker Labib Rahman** | **b00084215** |
| **Prem Rajendran** | **b00084833** |
| **Harshit Jiandani** | **b00082536** |
| **Sarthak Maloo** | **b00083635** |

**Description of Work**

Our project code mainly comprised of 3 sections namely:

1. Lexical Analyzer functions
2. Syntax Analyzer functions
3. Main functions (including file I/O)

We decided to allocate members based on the quantity of work. Since, the lexical analyzer required few functions, we allocated one member, namely Prem to handle this function. Furthermore, the syntax analyzer functions required more work so we decided to allocate a pair namely Harshit and Khondoker to simultaneously work on it. Lastly, all the testing functions and file I/O was handled by Sarthak.

However, all code was peer-reviewed by all team members before making commits to our GitHub repository. Furthermore, multiple in-person and online meetings were scheduled to discuss and debug our source code. During the final testing phase, the team members had a meeting testing it multiple times on all our devices, making sure to account for any runtime errors, bugs, or malfunctions. Finally, all changes made during the testing phase were pushed to the repository in one final commit.

Now we will provide testimonials from each member describing their individual work.

**Prem Rajendran:**

My contribution mainly consisted of the initial source code in the file, which includes the global constants required to assign token codes to the characters we encounter in our parsing of a file. Furthermore, I coded a lookup table function, namely find, that matched a character with its corresponding unique token number. I also coded another function get\_char, that was required to process the file character by character and match to a certain type of character (for e.g., uppercase, lowercase, digit). Then to complete the lexical analyzer, I created a function called lex, that processes each sequence of tokens to determine which type of token it is and whether it is valid as per our grammatical rules. Thus, this created function wrapped up the lexical analyzer which was called in subsequent functions.

**Khondoker Labib Rahman:**

**Harshit Jiandani:**

**Sarthak Maloo:**