Comp 261 A04 Report

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This assignment has been rather challenging but I relive I have accomplished most of the requirements. In the following section I will discuss details about the code and list few bugs which I have identified thought the process of testing and coding.

1   Code implementation

To implement a parser is necessary to have a set of grammar rules. The more strict and precise is the grammar the easier is to implement the parser. For this assignment I have implemented a simple parser with prefix notation.
Throughout the process of writing code blocks I have utilised the programs provided to check the validity of the implementation.

2   Challenges

- For the initial challenge (up to 95) I have implemented in the parser a map to store local variables declared at runtime, so that I can then check if the variable is been assigned or if is not been initialised and throw a parser fail message..

- Successively, I have implemented the local scope for variables (up to 100). To achieve this I have added a stack of maps (VarNode, RoborExprNode) so that I could then add a new layer at each occurrence of a block, and remove that layer at the end of a bloc, and rely on the implicit structure of a stack (FIFO). This implementation was then tested on a simple program which check for local and global variables.