BCSE III – Compiler Design Lab

Project - 5

Consider a simple Python-like language with
Data Type: integer **(int)** and floating point **(float),** string **(str),** boolean **(bool)** and list **(list)**
Data type of a variable is determined at the time of assignment of a value to it.

Python "for" loops are supported which loop over strings and lists.

The following statements are supported: assignment statements and 'print' statements. The statements may have arithmetic expressions with operators
'+', '--', '*', '/'.

Part I – Construct a CFG for this language.
Part II – Write a lexical analyser to scan the stream of characters from a program written in the above language and generate stream of tokens.
Part III – Maintain a symbol table with appropriate data structures.
Part IV – Write a bottom-up parser for this language (modules include Item-set construction, computation of FOLLOW, parsing table construction and parsing).