Tutorial
Type 2

Based on the code of question 3 of the last tutorial, modify StaicCheck.py to implement the following questions:

Question 1.
Create the local referencing environment of a function/procedure in an MP program? If there is a duplicate declaration of parameter or variable, please throw the Redeclared exception. Modify CheckerSuite.py to test your code.

Question 2.
Write method visitCallExpr to return the type of an invocation expression. Make sure that Undeclared and TypeMismatchInExpress exceptions will be raised when the corresponding error happens. Modify CheckerSuite.py to test your code.

Question 3.
Write method visitFor to check the type rules for a for statement. Modify CheckerSuite.py to test your code.

Question 4.
Assume that there are two types: IntType and FloatType and four operators: + ,- , *, / in a binary expression, write method visitBinaryOp and modify method visitCallStmt and visitCallExpr to perform type check in these methods.