Tutorial
Type

Based on the initial code of Assignment 3, modify StaicCheck.py to implement the following questions:

Question 1.
Assume that all statements in a MC program just are simple expressions including only one identifier. Write suitable methods in StaticCheck.py to check if the identifiers in the expressions are in local or global referencing environment of an MP program, otherwise, exception Undeclared(Identifier(),<identifier>) must be raised? Modify CheckerSuite.py to test your code.

Question 2.
Write corresponding visit methods to conduct type checking simple expressions such that id, literal, or binary expression with some operators like '=', '+', '-' and '*'. Assume that there are two types: int and float. The exception TypeMismatchInExpression(<expression>) should be raised when a type error is detected. Modify CheckerSuite.py to test your code.

Question 3.
Write method visitFor to check the type rules for a for statement and raise corresponding exceptions (TypeMismatchInStatement) if detecting a type error. Modify CheckerSuite.py to test your code.